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TRANSACTIONS
OF THE
ASSOCIATION
OF
Fellows and Licentiates
OF THE
KING'S AND QUEEN'S COLLEGE
OF
PHYSICIANS
IN
IRELAND.

VOLUME II.

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No. I.

<i>Name and Age of Patient.</i>	<i>Disease and Remarks.</i>	<i>State of Urine, when exposed to Heat.</i>
John Donnelly, æt. 40.	Third attack of General Dropsy.	Not coagulated.
Henry Skerritt,	Anasarca and Ascites of 1 month date, with Pulmonic inflammation, cured by 3 V. S.	Not coagulated.
Rose Nowlan, æt. 24.	Anasarca and Ascites, with diseased heart, 3 months date.	Not coagulated.
Andrew McMahon, æt. 60.	General Anasarca, 1 month date, with disease of the heart.	Not coagulated.
Francis Dignam, æt. 37.	Ascites of 2 years date ; pale and sallow.	Not coagulated.
John Kearney, æt. 37.	Very general anasarca, 1 month date, with carditis ; cured by repeated V. S.	Not coagulated.
Mary Cahill, æt. 26.	Ascites, 5 weeks date, with pain of both sides.	Not coagulated.
Anne Irwin, æt. 36.	6th Attack of Dropsy ; repeatedly tapped.	Not coagulated.
Cormick Rooney, æt. 48.	Anasarca and Ascites, 10 days date ; cough, dyspnea, palpitation.	Not coagulated,
Mary Clinton, æt. 68.	Acites of long standing.	Not coagulated.
Thomas Maguire, æt. 46.	Anasarca and Ascites, with cough and dyspnea.	Not coagulated,
Dorothy Collins, æt. 80.	Ascites and œdema of feet, 10 days date, after fatigue and cold with Enteritis.	Not coagulated.
Anne Reeves, æt. 22.	Ascites and œdema of feet 7 weeks date, with inflammatory symptoms of the thoracic viscera.	Not coagulated.
James Barnes, æt. 29.	Ascites of 3 months date, with chronic peritonitis.	Not coagulated.
Catherine Burke, æt. 50.	Ascites and œdema of the feet, 5 months date from cold and fatigue,	Not coagulated.
Patrick Daniel, æt. 50.	Ascites 5 months date ; chronic peritonitis.	Not coagulated.
William Carson, æt. 40.	3rd Attack of General Dropsy within the last 2 years.	Coagulated.
Bridget Cosgrave, æt. 44.	General Dropsy, with cough and asthma of long standing.	Coagulated.
James Gaynor, æt. 62	Ascites and Anasarca ; pale and sallow with dyspnea.	Coagulated.

No. II.

<i>Name and Age of Patient.</i>	<i>Disease and Remarks.</i>	<i>State of Urine, when exposed to Heat.</i>
Bernard Connor, æt. 17.	Ascites after Fever.	Not coagulated.
Mary Kelly, æt. 41.	Ascites with cedema of the legs after fever.	Not coagulated.
Eliza Quigly, æt. 12.	General Anasarca after Fever.	Not coagulated.
Catherine Ryan, æt. 25.	Cedema of feet and legs after Fever.	Not coagulated.
Richard Barrett, æt. 40.	Ascites after Fever.	Not coagulated.
Catherine Doyle, æt. 25.	Cedema of feet and legs after Fever.	Not coagulated.
James Lee, æt. 60.	Cedema of feet and legs after Fever.	Not coagulated.
Robert Warren, æt. 40.	Cedema of left foot and leg after Fever.	Not coagulated.
Patrick Connor, æt. 18.	Cedema of feet and legs after Fever.	Not coagulated.
Patrick Talbot, æt. 13.	Cedema of feet and legs after Fever.	Not coagulated.
William Cotterel, æt. 39.	Ascites.	Not coagulated.
Denis Cromie, æt. 50.	Ascites after Fever.	Not coagulated.
Mary Burn, æt. 45.	Ascites.	Not coagulated.
Catherine Ryan, æt. 25.	General dropsy with inflammation of the lungs; peritoneal inflammation and jaundice supervened.	Not coagulated.
Patrick Colloony, æt. 24.	Cedema of feet and legs after Fever.	Not coagulated.
Francis Reilly, æt. 24.	Cedema of feet and legs after Fever.	Not coagulated.
Celia Jones, æt. 17.	Cedema of feet and legs after Fever.	Not coagulated.
Patrick Kiernan, æt. 27.	Cedema of the feet and legs after Fever.	Not coagulated.
Thomas Kane, æt. 60.	General dropsy, 3d attack within 2 years.	Coagulated.
Ellen McBride, æt. 23.	Cedema of feet and legs with ascites after Fever.	Coagulated.
Mary Anderson, æt. 21.	General dropsy after Fever.	Coagulated.

1

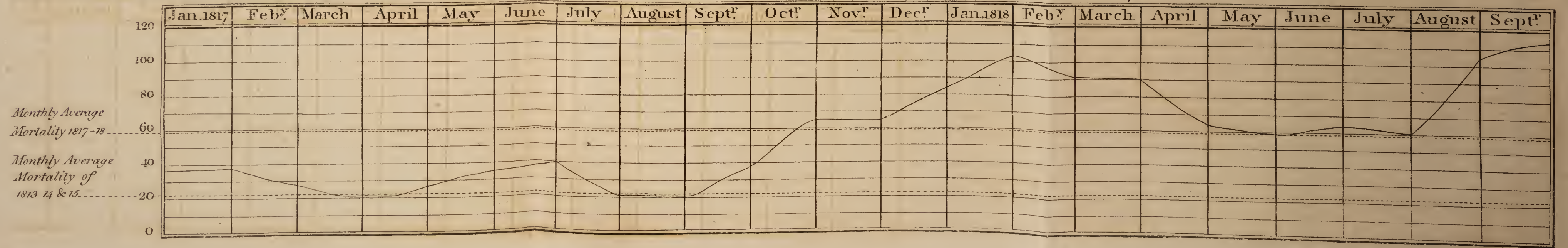
*Scale, exhibiting the Medium Thermometric range in
London and Dublin, during the Spring, Summer and Autumnal Months of
the Years 1815 & 1816.*



Scale, exhibiting the progress of the Epidemic, according to the numbers discharged Monthly from the Dublin Hospitals.



Scale, exhibiting the Mortality from Fever, during the same periods.



SUCCESSFUL OPERATION

OF

PARACENTESIS

OF THE

THORAX,

BY

NICHOLAS ARCHER, M. D.

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND,
&c. &c.

Read 2d August, 1818.

As there are but few cases of Paracentesis of the Thorax, terminating favourably, on record, the following case, containing some interesting circumstances, may not be unacceptable to the Medical Association.

In the month of October, 1798, I was sent for to visit a gentleman, aged 41, who, until within the last three years, had enjoyed very good health, was of a strong athletic form, and lived a temperate life.

I could collect from his physician, that about three years previous to my visit he had an attack

of Pleurisy, which yielded to two general bleedings, a blister, and the antiphlogistic regimen. Shortly after his recovery from this attack, (which seemed to be confined chiefly to the right side of the Thorax,) he began to complain of a short dry cough, a sense of heat in the right side, not amounting to pain, difficult breathing on using any exertion, palpitation and lividity of countenance. When he remained quiet, his breathing was perfectly tranquil, and his countenance natural.

He had consulted most of the medical men in London, and in Edinburgh, whose several opinions coincided in recommending him to remove to a more temperate and southerly climate. According to the recommendation of these medical gentlemen, he went over to Lisbon, and from thence into the interior of Portugal, where he remained for more than a year, without reaping the smallest advantage by the change, which induced him to return home. Whilst in Portugal, he thought that he could perceive the motion of a fluid in the right side of his Thorax, and endeavoured to impress this idea upon his medical friends, whom he re-visited on his way home, but without effect.

On my visit to him, which was nearly three years after his first attack of Pleurisy, he complained of

all the above recited symptoms, but in a much more aggravated degree ; his countenance nearly approaching to dark lividity, and his pulse at 130 in a minute ; great emaciation ; but still his breathing was but little disturbed, except on exertion.

He begged of me to examine him very particularly, for which purpose I placed him on his back a little inclining to his right side, and pressed strongly with my fingers between the ribs of his right side. On his gently agitating his chest, I distinctly perceived an undulating motion under my fingers, and on applying my ear close to the part, I could hear a noise like that produced by shaking a small cask not quite full of water.

I told him, that his idea of the existence of water in his chest was well founded, that it would be most difficult to remove it by absorption, and recommended that it should be drawn off by operation. He submitted to the suggestion with the greatest alacrity, and in a short space of time, two other medical gentlemen were procured, who agreed that nothing less than the Paracentesis of the Thorax could serve him.

The operation was accordingly performed, and eleven pints of an inodorous fluid, resembling

whey, were gradually abstracted. The tube of the canula was frequently obstructed by a solid substance, but on the introduction of a probe, it used to pass off. On examining these solid substances, they were discovered to be small branches of the bronchiæ in a shrivelled decayed state. During the drawing off of the fluid, his pulse gradually diminished in quickness, and increased in fullness; and at the close of the operation, they rested at eighty-six.

For some few days after the operation, the discharge from the orifice amounted to nearly two pints in 24 hours, of the same kind of fluid, but it gradually lessened. His breathing became free—the lividity of his countenance disappeared—his appetite mended—he daily gained flesh—he was able in a few weeks to walk and ride out in the open air, and his cough nearly subsided.

At his own suggestion, a slightly astringent lotion was thrown into his chest through the open orifice; at first consisting of a small portion of lime water mixed with rennet whey, and in a short time, we ventured on a weak solution of sulphat of zinc in rose water, with the most decided advantage. In four months all discharge nearly ceased; he gained strength, and enjoyed tolerably good health for three years.

It would appear, as if the first attack of Pleurisy which this gentleman had suffered, had been the cause of all his after symptoms. It is probable, that an ulceration of the external pleura had taken place, and that a small lymphatic had been included in this ulceration, which gradually oozing its lymph into the right cavity of the chest, occasioned a gradual compression of the lungs; which, in the course of the progress of the disease, must have been compressed into a very contracted space. It would appear too, as if the lungs themselves were free from ulceration, as he had but little cough, and but very little expectoration, which was perfectly mucous, and not approaching to the nature of the fluid drawn off.

Eleven pints of fluid would nearly occupy the whole of the right cavity of the chest; therefore, there could be no space at that side for the lungs to expand in inspiration. He had no œdema.

TWO CASES
OF
FATAL CONSTIPATION
OF THE
BOWELS:

COMMUNICATED BY

WILLIAM STOKER, M. D.

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS, &c. &c.

Read 30th October, 1818.

SUCH cases as the following are not uncommon, nor probably would the disorganization found after death appear so, if examination of the bodies of those dying of such diseases was more general.

Their histories, the first noted daily by myself during my attendance on the case, and the second given me by my friend Surgeon Wilmot, are presented to the Association without comment, as

they seem sufficiently illustrated by the information derived from the detailed appearances found on dissection.

WM. STOKER, 18, York-Street.

CASE I.

BY WILLIAM STOKER, M. D. &c. &c.

Miss T—, aged 70 years, naturally well formed and of middle stature, had been for many years habitually costive, otherwise healthy, till the year 1814, when she was seized with constipation so obstinate as to resist, for many weeks, active and ultimately effectual means employed by Surgeon Kirby. Since that time, the due evacuation of the bowels has been maintained by the daily use of laxatives, till the last three weeks, during which there has been no discharge per anum. At the commencement of that period, she had for a few days a copious flow of limpid urine, but latterly there has been a total suppression of urine. Her chief distress at present, arises from the enormous and painful distention of the abdomen, which is elevated to a conical shape with the navel at its apex. The surface of this swelling is smooth, tense, and extremely sore to the touch, no hernia

or enlargement of any viscus can be discovered ; and the air with which the tumour, from its elasticity, appears to be distended, seems to pervade the whole abdominal cavity. The patient is easiest in the erect posture, and a full inspiration increases her pain in the right side ; has frequent hiccup, which also increases her distress ; her stomach rejects the ingesta, unless taken in very small quantity at a time ; total loss of rest and appetite. Pulse 90, full, and rather harder than natural. Face flushed, skin dry, tongue white, but moist. The strength of her voice, or muscular power, in general, little impaired. Attributes her present illness to cold during the operation of a purgative taken that morning, and states that the swelling of the abdomen increased remarkably during a chilly fit, produced by taking a bottle of aerated magnesia, which she was induced to drink with the hope of restoring the action of the purgative ; in the course of the last three or four days, warm and oily laxatives by the mouth, alternated with enemata, have been actively, though ineffectually employed by Mr. Hamilton of Cuffe-street. I directed that 9 ounces of blood should be taken from the arm : pills of aloes, assafoetida, and calomel to be given, assisted by tobacco and turpentine glisters alternately ; by these means, most distressing symptoms were for a while mitigated, and a scanty discharge of urine and fæces

followed. A very peculiar noise was now to be heard every three or four minutes, like the gurgling of fluid forced backwards and forwards in a peristaltic motion, pervading the alimentary canal from one end to the other; and, during the continuance of this sound, the pain of belly was much increased; no discharge of flatus. For several days the symptoms became progressively more and more urgent, resisting all the medicinal and mechanical means suggested, or employed by Dr. Percival, Surgeons Richards and Collis, whose able assistance I had the satisfaction to have. On the 1st of June, the tumefaction of the belly seemed to have arisen at the utmost possible extent, having the feel and sound when touched with the finger, of a fully inflated bladder, and attended with the sensation to the patient, as if ready to rupture in some part of it. At 7 in the evening, the pains became most urgent and lancinating; the pulse a short time hard and quick, soon after was feeble and intermitting; extremities cold and clammy; her mind continued collected, and she complained of her pain increasing till half past 9 o'clock, P. M. when she expired. The following were the appearances which presented themselves on examination the day after death, by Dr. Collis and myself, and were noted by him.

Appearances on Dissection of the body of Mrs. T.

The abdomen was of a conical shape, the umbilicus representing the apex of the cone. On making an incision through the abdomen, muscles and peritonæum, a very large quantity of foetid air escaped, and the parietes of the abdomen resumed their natural form. The abdominal cavity being laid open, we saw the surface of the viscera covered over with fluid fæces, which were effused in very large quantities into the cavity. In the transverse arch of the colon, and rather to the right side, we discovered a circular opening, capable of receiving the end of the thumb—no mark of ulceration on the edges of this opening, nor the slightest appearance of inflammation in its vicinity. The opening through the two external coats, seemed to be larger than that through the mucous coat. The colon continued very much distended; no marks of peritoneal inflammation in any part of the cavity occasioned by the effusion of the fæces. The intestines were loaded with very great quantities of fat. Passing the hand along the rectum, a considerable hardness was felt pretty high up in that intestine. This intestine was removed, and also the diseased part of the colon, and are now preserved in the museum of the College of Surgeons. The rectum

at 6 inches above the anus, felt extremely hard for a full hand's breadth ; when slit up, we could not say that the hardness was seated particularly in any one of the coats ; for, on removing the fat, we found it running chiefly along the posterior part of the intestine ; the fat along this part being of a very firm consistence. This thickened state extended four inches along the intestine—through this space the inner coat of the gut was thrown into deep folds running transversely, and placed very close to each other, resembling the *valvulæ conniventes* in form, but exceeding them in depth and closeness of arrangement. Between the *rugæ* are openings large enough to receive the end of the probe, many of these lead into pouches which are made by projections of all coats of the intestine, along the particular line of the intestine (where the principal hardness lies ;) many of these openings lead into a canal, which runs along the hardened parts behind the valvular projections. At the upper edge of the hardness, the mucous membrane presents three or four rounded openings lying close to each other, and all of them leading into the same canal, which allows a probe to pass about $2\frac{1}{2}$ inches ; into this canal many of the openings between the *valvulæ conniventes* conduct the probe.

CASE II.

The case of a female who lived ten weeks without any evacuation from the bowels :

BY S. WILMOT, ESQ. &c. &c.

Mrs. C——, aged 60 years, and mother of four children, says that she has been always of a constive habit, and was frequently obliged to use purgative medicines ; but that latterly, these procured scanty discharges. She now positively declares, that she has been for the last ten weeks without any passage from her bowels, though she has taken a vast variety of physics, and got several very active injections by the advice of different physicians. She was frequently affected with vomiting, and now scarcely any thing remains in her stomach but cold water ; her countenance has the appearance of long suffering ; her eyes are sunken, and her skin is a pale of brownish colour ; her limbs are emaciated and anasarcous. Tongue dry, and of a dark yellow brown colour. Pulse quick, small and weak. Abdomen distended to an enormous size, is painful on pressure, and has a tympanitic feel. On examining the rectum by the finger, an obstruction was discovered high up

in it; I tried to pass a small candle, without success. The woman who was entrusted to give the injections says, she never could make them pass to her satisfaction. A few hours after this short sketch was taken, I learned that she was dead: her friends did not expect so speedy a dissolution. Leave being given to open her, the following appearances presented:—

On opening into the abdominal cavity, a large quantity of air, having the smell of fæces, rushed out, and some fluid of a yellowish colour. The whole of the intestinal canal was greatly distended: The transverse arch of the colon was as large as the stomach when distended. The cœcum was so much enlarged, that I am positive it would have contained one gallon of fluid: on its anterior surface, there was a small aperture bounded by a circle of a livid greenish colour. It gave exit to a small quantity of feculent matter, which coated some of the intestines in the neighbourhood. The intestines appeared of a dark red colour, but nothing like inflammation was discovered. On passing the hand down into the pelvis, the uterus was found much enlarged and hard, and evidently cancerous. It had formed firm adhesion to the rectum and bladder, both of which were in some degree affected by the cancerous disease. On examining these parts out of the pelvis, the rectum

was found almost entirely obliterated for a space of nearly 6 inches. This diminution in the capacity of the rectum was caused by the pressure of the uterus, and also by a diseased thickening of its coats.

CASE OF RUPTURED UTERUS,

BY

CHARLES FRIZEL, M. D.

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS, &c.

Read 3d January, 1818.

IN compliance with the request of some of my medical friends, I have been induced to offer to you a short statement of a case of ruptured uterus, which occurred during the time in which I acted in capacity of assistant to the Lying in Hospital of this city. That this deplorable accident but rarely occurs, we may consider a fortunate circumstance, for when it happens, it mostly proves fatal. I know that there are some instances, in which it terminated favourably. See Dr. Stanton's case of Mrs. Williams, as reported to the Medical Society of London, by Mr. Kite; also Dr. Douglass of London, case of Mr. Manning.

Dr. Hamilton also relates an instance of the recovery of the patient after rupture of the uterus; and in this city you have some well authenticated cases of recovery, particularly those mentioned by Dr. Joseph Clarke in his Hospital Report. See Transactions of the Medical Association, page 392; and also by Dr. Labat, Medical Transactions, year 1808, page 348. But, however flattering these cases and a few others may appear, it must be admitted, that in general, the event has proved so very disastrous, and the dissolution so rapid, that little room has been left for attempting much towards the relief of the patient. In taking a view of a number of cases, I find that in 2484 patients admitted into the Lying-in Hospital of this city, in the year 1813, only four out of that number were so afflicted, all of whom died. One of them, Elizabeth Dwyer, mentioned page 348 of the Dublin Medical Essays, 1808, had been ruptured in a former lying-in, but recovered under Dr. Labat; in her next confinement as mentioned above, the womb ruptured again, and she sunk under it.

In the year 1814, 2508 patients were admitted, out of which number, only three had rupture of the uterus, and it appears that they all died.

In the year 1815, 3075 patients were admitted;

and only two cases of rupture appears to have taken place, and they both died.

According to this view, the number of the ruptured cases which are to be met with in proportion to the fortunate deliveries, may be stated to be as one to about 940. The case I am now about to state as it proved fortunate, I am flattered to believe, may not be altogether uninteresting to you. I give you the facts as they presented themselves, and were taken during the hurry of hospital attendance, so have to request your indulgence for any inaccuracies that may occur in the detail.

Bridget Fagan admitted into the Lying-in-Hospital the 22d of April, 1814, about 30 years of age, of small make, spare habit, and tolerably well made, had six children before, and generally severe labour with them; with the present child, she had been in severe labour for nearly three nights, and the most part of two days; the midwife who attended her getting alarmed, and also her friends, on the eve of the second day, sent for a professional man, but as no one could be immediately obtained, they returned; and about midnight, it occurred to them to send to the Lying-in-Hospital for assistance: as I was at the time engaged with a case of some difficulty, I could not accompany the messenger, but requested Mr.

Grattan, a very respectable army surgeon, who was then a senior pupil, to attend her. This gentleman, on visiting the woman, found her in such an exhausted state, apparently without labour; the child's arm a long time expelled, and altogether in such danger, that he advised her to be immediately conveyed to the Hospital, and in this state she was accordingly brought in on a litter or bed, about 4 o'clock on the morning of Friday. When I was apprised of her being on the couch, I hastened to her, and found her quite exhausted, without labour pains: pulse very feeble; and apparently very indifferent to every object around her, only at intervals she was roused from this state by hiccup, and a very distressing vomiting: the child's arm quite protruded, black, and greatly tumefied; the shoulder lodged a little lower than the superior aperture of the pelvis. Directing a little wine and water to be given to her, I apprised the then Master, Dr. Hopkins, of the case, who immediately attended; and I am happy in having this opportunity of gratefully acknowledging the advantage I derived in this, as well as in many other difficulties, from his professional advice and directions. I then informed myself as to the state of the bladder, and making the necessary preparation (as to lubricating the hand, &c.) after some perseverance, was enabled to pass my hand along the arm, past the shoulder, and into the uterus

which I found closely encompassing the body of the child ; I got hold of the left foot, and brought it into the vagina, endeavouring at the same time to return the arm, in which I succeeded ; but found every effort unavailing to bring the foot farther than the external parts, though aided by a garter noosed over the ankle. Some hæmorrhage supervening, I requested the master to try and extract it, but he finding it impracticable, and the loss of blood still continuing, he directed me to try and get the other foot, but failing in the attempt, I got the crotchet hooked in the acetabulum coxendicis, and endeavoured to extract in this manner, but it gradually tore its way towards the knee ; and having disengaged the instrument, on making a slight effort to extract the child, the leg, almost putrid, came away from the knee. I now attempted again to obtain the other foot, and on introducing my hand for this purpose in the vagina, I was surprised to find a soft floating fold, which I discovered to be the intestines surrounding it ; withdrawing my hand somewhat, I then got it into the womb and laid hold of the other foot, but could not bring it down into the pelvis owing to the weakness of my hand, the foot slipping, and the peculiar situation of the child. The master perceiving the difficulty, directed Mr. Grattan, his hand being smaller, to try and bring it forth, in which being disappointed, I passed

in my left hand, and secured the foot ; I then conveyed the hooked part of the crotchet along my arm into my hand, and hooking it in the foot, firmly grasped all together; and with the right making the extraction, I succeeded in partly bringing down the child ; after which, I found little difficulty in delivering her of the remainder. The placenta I shortly after extracted, in doing which, I ascertained more fully the extent of the rupture, and found it to commence at the upper part of the symphysis pubis ; and to proceed on the left side, to nearly the middle of the opposite part of the sacrum, or the last vertebra where it joins the sacrum. I carefully pushed up the intestines, but found some difficulty in replacing them, as they constantly protruded, or one portion presented itself whilst I was endeavouring to replace another. Under these circumstances, I tried to bring the lacerated edges of the rupture together, but still finding the intestines to protrude a little, I pushed them up pretty high, and slowly withdrawing the hand, brought the edges of the rupture to overlap one another, and think after this arrangement they retained their situation, particularly as the womb had by this time contracted a little ; and, on subsequent examination, I did not perceive that they had descended. I got her settled on the couch, placing her on the right side, by about 6 o'clock in the morning ; an anodyne draught was adminis-

tered, and directions left that she should not be removed until we should see her again. We left her not expecting to find her so well (or indeed I may say alive) as we did at the next visit, which was about half past 8 o'clock ; at which time, she seemed tolerably free from pain, and disposed to sleep.

Ordered her a pill containing five grains of calomel, and in about two hours afterwards infusum sennæ, with sulphat of magnesia, from which having no evacuation, at one o'clock ordered an injection, and to continue the mixture tertiis horis, which, towards evening, operated tolerably well. Still continue the mixture.

Saturday morning found her not so well, complained of great soreness and pains in the hypogastric region, increased by pressure : indeed she could scarcely bear the touch ; had not made any water ; drew off better than a pint of dark coloured urine with the catheter : pulse 120 ; skin hot and dry ; some head-ache and thirst.

Ordered the abdomen to be fomented, and bled her to the amount of six or eight ounces, when she fainted ; also directed an enema to be given, and the mixture to be continued.

In the evening found her a little relieved from pain ; had several alvine discharges ; had passed some water ; pulse nearly the same as in the morning ; skin more moist ; no head-ache or thirst. Continue the mixture, and fomentation of abdomen.

Sunday 24th, found her somewhat relieved from pain, except on pressure : pulse about 100 ; very weak ; physic operated well ; tongue clean ; no thirst ; lochia in great quantity, mixed with coagula, and very foetid ; breasts have a little appearance of milk.

Ordered two spoonfuls of a purgative mixture composed of infusum sennæ, with electuary of scammony, and a little tincture of jalap. To be repeated every three hours until it operated well.

On our next visit, found her very weak, complained of her medicine : and in truth she had been so affected by it, and what she had already taken, that the nurse was constantly employed in keeping her changed and dry ; with the exception of weakness, however, she is doing very well. Perhaps it is not necessary to trouble you with the detail of all the medical treatment ; suffice it to say, she recovered, and was discharged convalescent from the Hospital the 8th day of May, 1814.

I have seen the woman since, and heard she had another child. I understand also, she enjoys good health.

In this case I have given you the history, the facts, and the treatment, with all their imperfections, such as they may be. I know it may be objected, that there appears a deal of unnecessary experiment throughout, to which I can only reply, that I acted with as much delicacy and decision as I was capable of exerting, in such a hopeless and critical case. I beg also to say, that it is not possible for any one to form an opinion of the untoward and extraordinary difficulties, which sometimes occur, except those gentlemen whose particular department in this branch of the profession may have subjected them to some of those trying scenes, and feel satisfied that they at least can judge of the fact, that the best directed efforts and rules of art will be sometimes frustrated ; and that then, of course, it only remains to act according to the best of our discretion in the discharge of our duty. With respect to that part of the case in which I mention the overlapping of the edges of the rupture, I fear it may be said, that young practitioners are fond of introducing every thing as a discovery or novelty, if such this may be termed ; but I have not the vanity to think I have a claim to either. I simply state the case, that in such a

very hopeless dilemma, I was reduced to the necessity of adopting this plan, as the only one that at all seemed likely to be of any service, and in as much as that the attempt succeeded in retaining in situ the intestines, until the uterus had sufficiently contracted ; and that the woman recovered, I consider myself fortunate. I am far from presuming that it was to this alone, that the woman was indebted for her recovery ; the loss she experienced during delivery, and subsequent venæsection (though in this little blood could be obtained,) together with the other means adopted, must have their due share in the successful event of the case. Among the means employed, perhaps, it would be well to mention, that I kept her as much as I could on the right side, as it occurred to me the rupture being on the left, that the discharge of any coagula or sloughing would with greater facility be promoted through the vagina, which otherwise might have been likely to find its way into the cavity of the abdomen. On comparing some of the symptoms produced by rupture of the uterus, with those accompanying strangulated hernia, I am strongly confirmed in the idea suggested by Dr. Labat in his case, and some others, that it is not improbable, that in many cases of rupture, the chances of recovery may be lessened by the combination of both. I am anxious to mention this circumstance, as I think it

would be a duty, however hopeless the case might appear to be, to attend to every thing, that even, in the most remote point of view, might add to the chance of the well-doing of the patient. In suggesting these hints, I am aware that they have not been altogether overlooked, by the many who have written so learnedly on the subject of midwifery ; but by so doing, I would wish to recal the practice of attending to minutiae, which I am sure in many instances have been neglected.

3d January, }
24, Sackville Street, }

A CASE
OF
AN UNUSUAL TERMINATION
OF
PSOAS ABSCESS ;

COMMUNICATED BY DR. STOKER.

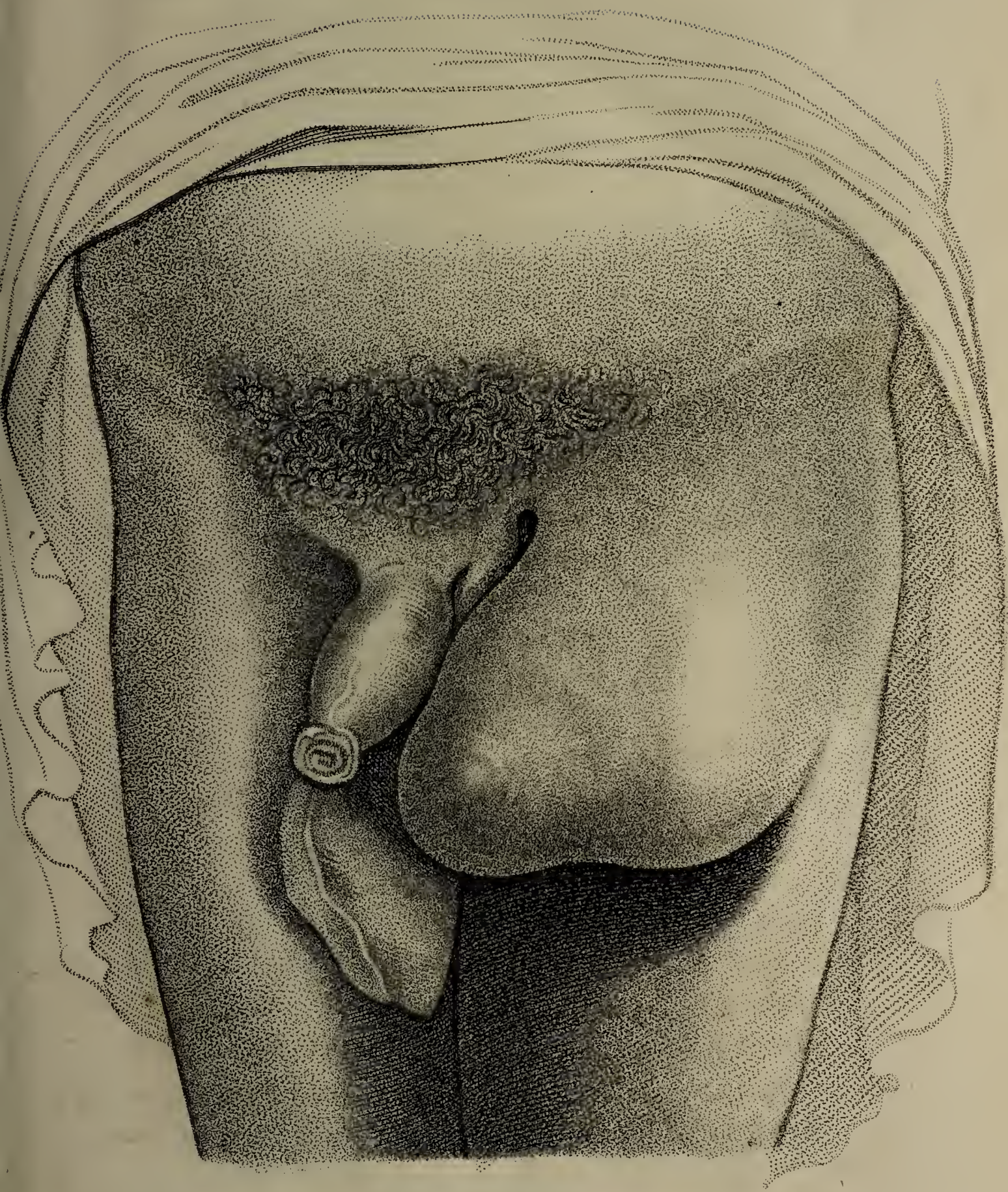
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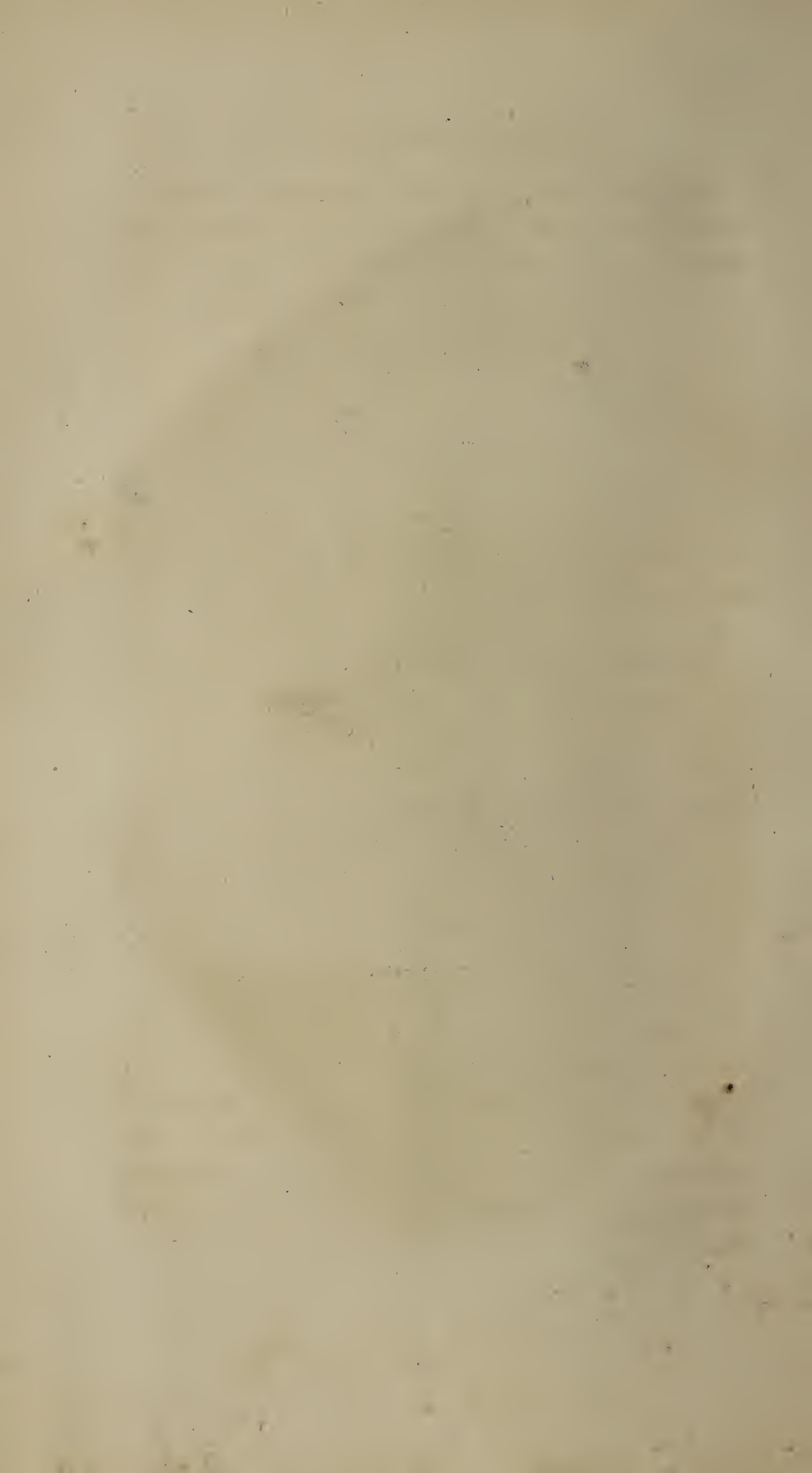
SAMUEL WILMOT,

MEMBER OF THE COLLEGE OF SURGEONS IN IRELAND, ONE OF THE SURGEONS
OF DR. STEVEN'S HOSPITAL, AND OF THE CHARITABLE INFIRMARY
IN JERVIS ST. LECTURER ON SURGERY, &c. &c.

Read 2nd March, 1818.

Martin Carroll aged 22 years, a strong athletic young man, was seized about the beginning of 1814, with a pain in his loins after lying on a damp bed. He was repeatedly blistered for this pain without receiving any decided relief. After a lapse of nearly twelve months his health began to decline. He was now frequently attacked with a creeping in his skin, and a chilliness towards evening. Says he got hot and restless soon after going to bed, and that after sleeping, his face and





breast were moist with perspiration. Appetite bad ; great thirst ; suffered at this period much from an acute pain in his left knee. Says that the pain in his back is much increased by striking his foot against any unyielding body.

A tumor now appeared in the left groin which alarmed him greatly, and was the cause of his coming to town for advice. I now saw him for the first time, which was in the winter of 1815, and learned from him the history which I have just detailed.

On examination I found the tumor about the size of a tennis ball, but flat, and immediately under Pouparts ligament accompanied with a swelling above it. The integuments covering the tumor were a little discoloured, and a distinct fluctuation could be felt within it ; it was also slightly affected by coughing, and the horizontal posture.

From the history of this case, and from the feel and appearance of the tumor, I had no hesitation in declaring it to be a well marked case of psoas abscess ; Dr. Stoker, who brought the patient to me, coincided in this opinion. We agreed to tap the tumor, but the patient refused his consent and returned to the country. I should have mentioned that there was no disease of the vertebrae.

After an interval of nearly a year, he came to town again, resolved to submit to any treatment I might think fit to advise. On this second visit, I was not a little surprised to find that the tumor in the left groin, though very much increased in size, had lost all the characters of an abscess. It was now of a conical shape as represented in the drawing; it measured nearly fourteen inches in circumference at the base, and from the base to the apex about seven inches; all sense of fluctuation within the tumor was now gone, and it now had a tympanitic and very elastic feel. The integuments had ceased to be discoloured and were very loosely connected to the tumor, whose parietes felt about the thickness of the tunica vaginalis in an old hydrocele; they were not however of a uniform thickness, the apex being much thinner than any other part. The patient's health was now completely re-established; the hectic symptoms, and the pains and the weakness of his back which he complained of at the commencement of the attack, gradually declined without any medical interference, but the tumor continued rapidly to increase, producing considerable inconvenience by its bulk and preventing him from following his usual occupations.

On making a more accurate examination of the tumor, in order to ascertain its contents, I found

that its cavity freely communicated with the abdomen, and that this communication was by a narrow passage running in the direction of the psoas muscle, and that I could very easily empty the contents of the tumor into the abdomen through this passage, which makes it evident that the external sac was an elongation of the internal cavity. When this was accomplished I could feel the femoral ring greatly enlarged and a considerable cavity under it among the muscles situated at the upper and anterior part of the thigh. On removing the pressure which was necessary to empty the sac, it suddenly became distended to its usual size, though the patient lay in the horizontal posture; from this circumstance, together with the elastic and tympanitic feel of the tumor, and from its having lost all characters of an abscess, I had no hesitation in asserting that air was now its contents. This may appear strange at first, but very little consideration will satisfactorily account for its existence.

We know from numerous pathological facts, that the cysts of abscesses are highly organized, having arteries whose office it is to secrete pus, and absorbents which not unfrequently take up, either totally or in part, the matter in contact with them. In the case under consideration the matter was entirely absorbed, and there was also a cessation

to the secretion of more matter, in consequence of the great change in the patient's constitution. The arteries having ceased to be employed in the secretion of pus, now assumed the office of secreting air, and by this means the gradual obliteration of the cyst by contraction was prevented, which is usual in ordinary cases, when the matter is removed by the absorbents. There is no point in pathology better established, nor one more universally admitted, than the power of arteries to secrete or separate air from the blood. This is proved in cases of emphysema, where the lungs are entire, and also in that affection called tympanitis; if then it is admitted that the arteries of the cell. memb. and of the stomach and of the intestines can at times secrete air, I conceive I have not advanced any thing strange or inconsistent, by allowing a similar power to the arteries of the cyst of an abscess whose integrity had not been destroyed, either by a natural or artificial process.

The disappearance of the pus and the formation of the air being accounted for, the rapid increase of the tumor externally, and its contracted limits internally, may be easily shown. Air being an elastic fluid, its bulk depends on the degree of pressure to which it is exposed. From the dissertation already given it appears that the sac which con-

tained this air, was situated partly within the cavity of the abdomen, and partly without it. The internal portion being originally thicker, the disease being first formed there, and being compressed by the surrounding viscera, was capable of affording more resistance than that portion under Pouports ligament, it being thinner and less compressed. This resistance given to the air within, together with the force of gravity, caused more of it to descend to the depending part, and here meeting with less resistance, it expanded and dilated this part of the sac, so as to produce the tumor to the size described. Being firmly convinced of the nature of the case, I saw that there were two modes of giving relief; one by puncturing the tumor and letting out the contained air, and then bringing the sides of the sac into contact, so as to cause the opposite surfaces to adhere, and in this way destroy the cavity; or by pressure, to promote its absorption, and by a continuation of the pressure to bring about obliteration either by contraction or adhesion. I determined upon trying the effect of pressure, which succeeded most effectually. I applied a bandage and compress, wet with a strong decoction of oak bark and alum; this application produced a considerable corrugation of the skin. In about three weeks the air was almost entirely absorbed, and the sac considerably diminished. I

now got a truss made with a pad so as to cover the entire extent of the sac. The patient was now able to walk, and in about four weeks from putting on the truss, left the hospital perfectly free from any swelling.

ON
APOPLEXIA CEPHALICA.

BY WILLIAM STOKER, M. D.

LICENCIARIES OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND,
&c. &c.

Read 2d March, 1818.

“ GENERAL views should be deduced from facts. If they flow naturally from the latter, we shall be able to recognize their propriety as well as those who first drew them from these facts ; and we shall be the more sure of their justness, as no private interest leads us to prefer one opinion to another ; and as we are disposed to receive the views which may afterwards occur, and of which we are ignorant, with the same eagerness that we adopt those which have been transmitted to us by our predecessors. In the present age, it is no longer in the defence of this or that opinion, that men of learning suppose their glory to consist ; but in giving proofs of good sense, in ardently searching after truth, and in frankly acknowledging their mistakes. To have arrived at this point, is to have made no small progress in knowledge.”*

* Cabanus on the revolutions of medical science ;

As may be readily supposed, I feel extremely loath to incur the risk of attempting any alteration in nosological nomenclature, a subject which has engaged so much attention from those highly qualified to judge of, and to overcome the difficulties in which they found it involved. I, however, think myself warranted by such facts as I am about to lay before the association, in proposing that Dr. Cullen's 3d species of apoplexy should be subdivided and separately considered under two distinct varieties. The first to be named *Apoplexia Cephalitica*, and the other *Apoplexia Hydrocephalica*. Under the former variety, all such cases as the annexed might be arranged, in which, tho' many, if not all the symptoms, which compose the present extended definition of hydrocephalus were present, yet, probably, no preternatural lymphic effusion, as implied in the name of the disease, had taken place.

To illustrate this opinion, and to meet an objection, that might be made to the proposal, namely, that its object is already embraced in the division of the disease into stages, I will in limine briefly relate a case which I attended, along with my learned friend, Dr. Grattan, in the summer of the year 1815.

A young gentleman, in about the 11th year of

his age, laboured under severe fever for twenty-two days, during the eight last of which, notwithstanding that general and local blood-letting, as well as other active means, had been employed, acute head-ache, delirium, tossing the hands to the head, strabismus, dilatation of the pupils, and impaired vision supervened; yet, on the most minute examination of the brain made by Mr. Kirby the day after death, no effusion or disorganization could be detected in it, excepting that when the cranium was first removed, the encephalon seemed to us to be in size more than proportioned to the bone that contained it, and to expand itself considerably over the under section of the base of the cranium.

In the apoplexia febrium continuarum, I have also often witnessed the *pulsus tardior*, *pupillæ dilatatio*, *strabismus*, *visus imminutus* et *plausus capitis manibus*, as well as other symptoms which are given by minute historians of disease, to denote effusion, or disorganization in the brain, but that neither had taken place might be inferred from the rapidity with which these symptoms sometimes disappear on the removal of the causes which tend to, or increase that unequal distribution of blood in the system, so remarkable in many cases of fever of great debility; the causes that I mean are, obstruction from infarction of

the lungs or digestive organs, impeding the free return of blood from the head.

That diminished action of the large vessels of the brain, to which, from their structure, they are most liable, chiefly tends to induce morbid turgidity in them, appears probable not only from the concomitant symptoms during life, such as livid or pale complexion, cold and clammy skin, slow or unequal pulse; but also from the appearance, on examination, of those who die of fever, attended with affections of the head, the large vessels being found gorged with blood, and the capillaries, the known seat of inflammation, shewing no marks of having suffered from morbid action. A diagnosis between these varieties that I have now ventured to name, is a very important desideratum in a practical point of view: it would prevent a twofold evil, which has hitherto existed; fallacious hopes being indulged in one form of disease from means that removed the other; and on the other hand, their failure in the former, deprive them of their merited repute as remedies for the latter; but it would require that the symptoms peculiar to each should be noted with great accuracy in a greater number of cases than I have yet observed, to attempt to give such a diagnosis. Inquiry, however, into the predisposing and exciting causes, and the relative

degrees of the symptoms very generally assist me to form the distinction with tolerable certainty ; and hoping that a collection of such cases as the following, may afford some aid towards this object, I beg leave to lay it before the association ; and in a few concluding observations, I intend to notice the apparent efficacy and *modus operandi* of the remedies I employed.

Miss Catherine W——, Parker-Hill, Rathmines, had been until the present illness, an animated healthy child—is four years of age. On or about the 25th Oct. 1817, she became restless and fretful, nauseated food, skin becoming hot and dry, face flushed and belly costive, and seemed to suffer extremely from pain in the head.

For these symptoms, strong purgatives and leeches had been employed by a respectable surgeon, who had attended, previous to my being called on. The purgatives had little effect ; the leeches had caused a plentiful discharge of blood from the head : I learned these particulars from Mr. Mansfield, Charlemont-street, not having the satisfaction of meeting the gentleman who preceded me, his residence being remote.

On this day, November 3d, 1817, the patient is constantly moaning and agitating the limbs ;

the hands being often applied to the head—she sometimes utters a shrill scream, especially when moved—her face pale and somewhat jaundiced, its lineaments being shrunk, the skin dry, but little hotter than natural, pulse rather indistinct and unequal, but as nearly as could be counted 160, her muscles in general very rigid, especially over the abdomen; and there is an evident preternatural fulness in the right hypochondre, apparent loss of vision, the direction of the eyes not being affected by a lighted candle, or any other attractive object being passed near them, neither do the pupils, (which are dilated, especially that of the right eye) contract on the near approximation of light; some strabismus, corneæ lucidæ dull, although the eye balls have a glazed appearance, stools very scanty and green, urine scanty, the stomach quickly rejects either solids or fluids; no sleep the last day or night.

She was immediately immersed, to the neck, in a water-bath, temperature 98° for eight minutes, during which time, a sponge filled with cold water was applied constantly to the head. On her removal to bed, the pulse was more distinct, and muscular rigidity less: turpentine enemata were directed, and compound infusion of mint to settle her stomach. As soon as they could be taken, small doses of calomel and scammony to be

frequently repeated, the warm bath and cold application to the head to be used in the evening, and six grains of Dover's powder and two of James' powders to be given on being removed from the bath, and a similar dose at midnight; camphorated oil to be rubbed on the abdomen and spine, and a blister to the right hypochondre.

November 4.—The purging powder and enemata produced several scybalous stools, the blister has vesicated well, got some sleep after the first anodyne powder, and slept still more quietly since that at midnight, nor has she screamed more than once or twice since; the rigidity of the limbs and belly is very much diminished and the skin softer, but she lies more comatose, and breathing somewhat stertorous, eyes and sight not apparently improved.

The remedies, as yesterday, to be repeated, and one table-spoonful of strong infusion of green tea to be given every second hour.

November 5.—Fæces and urine passed more freely after the use of the purgatives, she relishes the tea, and it seems to have relieved both coma and vomiting. Though she took the anodyne powders last night, as before, pulse 140, more distinct. When roused, she tosses the head and

limbs a good deal, and still applies the hand to the head ; the rigidity of muscles is entirely removed, the eyelids remain separated when she is asleep, and when awake the eyes have a vacant stare, so that the loss of vision is more perceptible, the pupils are still dilated and cornea dull ; she, to day, however, knows her mother's voice, and cries when absent from her. For a while, this morning, the pupils seemed to Mr. Mansfield, to be more sensible when he examined them and exposed them to a strong light. No alteration in the plan pursued yesterday, except that the infusion of roses and Epsom salts was substituted for the purging powders.

November 6.—Purgative mixture is not as effectual as the powders were : she however slept tranquilly after the anodyne powders, and seems better to day, but the appearance of the eyes not perceptibly changed, skin a little softer, pulse 130. The calomel and scammony were resumed, and the other remedies advised to be continued as yesterday.

November 7.—Bowels were well freed, fæces natural, urine free, tongue, which can now be protruded, is loaded but soft, appearance of eyes and countenance much improved, the pupils contract slowly, on the approach of light, pulse 120, drinks freely and greedily :—continue remedies.

On the 8th, amendment was still more apparent, and Mr. W's. being at a very inconvenient distance from my house, Mr. Mansfield undertook to superintend the child's convalescence, and from him I was happy to learn that though recovery proceeded slowly, it was constant, and health and perfect vision were entirely restored in about eighteen days, after I last visited my patient.

In a retrospect of this case, I am by no means inclined to overlook the share which the remedies employed at its commencement had in producing the favourable result. The effect of the purgatives then administered must have moderated fever and diminished the torpor of the intestinal canal, and the detraction of blood by leeches, most probably counteracted very considerably the over-distention of the vessels of the head (by diminishing the supply), which otherwise would have destroyed their contractile power, on which recovery depended, when the distending cause was removed.

It would seem as if that the action of blood-letting in such cases is two-fold, lessening the mass of blood which is the pabulum of the disease in the debilitated vessels affected, and secondly by by disincumbering the vascular system in general, becoming indirectly stimulant, and thus increasing

the powers of the propelling fluids through them. The first effect is obvious, and the second may be implied from the quickening and strength of the pulse, which is generally observable in such cases, where blood-letting is beneficial, the quickening of the pulse being, as I believe, a favourable criterion, as it generally takes place, if re-action has not been destroyed by over-distention or effusion on the organs affected. From the foregoing view of the *modus operandi* of blood-letting in apoplectic affections, and the blood effused in critical epistaxis, when favourable, being arterial, I have always preferred taking blood from the temporal artery, whenever I deemed bleeding advisable in such cases, and am of opinion it is the most efficacious mode ; and I think I am warranted by experience in making another practical observation :—That blood-letting often appears prejudicial when employed as a preventive of apoplectic affections, unless on their imminent approach, probably from its well known tendency to promote sanguification.

Each of the other remedies employed in this case seemed useful ; I had often before witnessed good effects from the warm bath, and cold applications to the head in similar affections ; the blister, too, which I had employed on account of the fulness in the right hypochondre, and from having

a favourable report made to me by Mr. Mc. Carthy of Aungier-street, of that remedy in cases supposed to be hydrocephalic, probably was beneficial here also: but the relief that succeeded the administration of James' powder and Dover's powder combined, was unquestionable.

Soon after I had heard the favourable accounts given of the Rev. Singleton Harpur's trials of James' powder employed in hydrocephalic affections, I prescribed them in several apoplectic cases both in my private and hospital practice, and published the result of my experience in the * Dublin Medical Essays, and subsequently † on other occasions: and though the explanation, which I then attempted of its mode of action, be imperfect, I do not yet feel justified to make any change in it.

The observations lately published by a learned member of our association, are also highly favourable to its being a remedy in apoplectic affections, and have the additional weight of unbiassed evidence, as it does not appear that he was conscious of my previous recommendation of this powder.

* See Dublin Medical Essays, anno 1806.

† See Treatise on Fever, 1814, page iii.

The valuable paper lately published by our late worthy president* in the transactions of the association, on his and Doctor Percival's experience of the use of Dovers' powders in hydrocephalus, and the very ample and able reports of the trials by Doctors Cheyne, and Crampton, render it totally unnecessary to occupy more time on that subject : I shall therefore hasten to conclude with a few observations on the infusion of green tea, a remedy I have been induced to make trial of, in comatose affections, from the recommendation of it by our esteemed associate, Doctor Edward Percival.†

In such states, especially when connected with fever, or succeeding the use of opium, I have found that remedy highly beneficial, agreeing well with the taste in the mouth and with the stomach, rousing vital energy without increasing febrile excitement, promoting healthy secretions especially that of the urinary organs, which in such states are frequently tardy. The following case may assist to illustrate this statement : A married lady 30 years of age who weaned a healthy child from her breast about a month previously, was on the 9th of February attacked with fever, and on the 20th of that month, the day on which I first saw her, she laboured under the following symptoms :

* Doctor Brooke.

† See Hospital Reports, 1st vol.

countenance anxious, with a dark circumscribed flush on the cheeks, eyes suffused, the vessels on the cornea turgid, tongue brown and dry, teeth covered with a scum of carneous consistence, low delirium, pulse very indistinct, no sleep, frequent moaning, general debility, hands tremulous, she lies on the back, sliding imperceptibly towards the foot of the bed, her skin clammy and thickly covered with large dark petechiæ, bowels have been well freed by calomel and draughts composed of turpentine and castor oil, assisted by enemata, alvine discharges very dark and offensive, urine pale, violet odour.

A table spoonful of barm with two of camphorated mixture every second hour, the head to be shaved and washed with vinegar and cold water, the arms face and shoulders also to be washed in like manner; claret and water, soda and barley water for drinks.

21st. No very remarkable change in the symptoms; face flushed, pulse 140 but firmer, more delirium, the temporal and carotid arteries throb violently; alvine discharges less dark and offensive: five ounces of blood to be taken from the temporal artery, and a blister to be applied to the nape of the neck; the remedies to be continued as directed yesterday.

22nd. Scarcely one ounce of blood was taken from the temporal artery ; general debility much increased, pulse 150 and feeble, tongue dark brown, petechiæ nearly disappeared, bowels free, abdomen soft and empty. Continue the remedies—a blister to the vertex.

23rd, Had three convulsive fits in the course of the night accompanied with screaming, pulse 150 and small, abdomen swelled and tense ; no urine passed through the night, otherwise little change. The abdomen to be rubbed with camphorated oil, hypogastrium to be stuped with flannels and hot water ; a draught with castor oil and turpentine to be immediately given, and four grains of Dover's powder. The claret and other drinks to be continued.

Evening—No urine passed in the course of the day, and the fundus of the bladder is to be felt rising over the symphysis pubis, no screaming nor convulsion since our last visit, nearly three pints of urine, having a strong violet odour, was then drawn off by the catheter.

24th, Lies in a very comatose state, no urine passed, some hiccup, stomach rejects the ingesta, retains the fluids taken into the mouth a long time, and swallows them with difficulty. Let two

table spoonfuls of a strong infusion of green tea, be given every second hour, and a weak infusion of it be for common use.

Evening—Much more animated, swallows easily, no vomiting, urine passed freely, but sometimes involuntary, pulse 100, bowels free, relishes the tea.

25th Had a quiet night, pulse 96, makes no complaint. Continue the tea.

26th Convalescent. Recovery was afterwards progressive until complete.

This patient was attended previously to my being called on, by Surgeon Adrien, and afterwards conjointly with me.

AN
ESSAY ON DREAMING :
INCLUDING
CONJECTURES
ON THE
PROXIMATE CAUSE OF SLEEP,

BY
ANDREW CARMICHAEL, M. R. I. A.

Read by Dr. Brooke, 6th April, 1818.

Il faut marcher vers la vérité, sans s'inquieter des obstacles apparents qui se présentent.

MADAME DE STAEL.

DREAMS have perplexed every individual who has attempted to account for them ; but it will scarcely be credited that a philosopher of the eighteenth century who was acquainted with the opinions of Locke, and had controverted with ability the Theory of Berkley, should find no other mode of explaining these phenomena, than by maintaining that “our dreams are prompted by

separate immaterial beings;”* and in illustration of the nature of uneasy dreams during illness, could argue that “these beings wait for and catch the opportunity of the indisposition of the body, to represent at the same time something terrifying also to the mind.”†

But to arrive at a more rational explication, we must revert to this author’s predecessors. “Dreaming (says Locke) is the having of ideas (whilst the outward senses are stopped, so that they receive not outward objects with their usual quickness) in the mind, not suggested by any external objects or known occasion, nor under any choice or conduct of the understanding at all;”‡ and again, “this I would willingly be satisfied in, whether the soul when it thinks thus apart, and as it were separate from the *body*, acts *less rationally* than when conjointly with it or no? If its separate thoughts be less rational, then these men must say, that the soul owes the perfection of *rational* thinking to the *body*: if it does not, it is a wonder

* An inquiry into the nature of the human soul, wherein the immateriality of the soul is evinced from the principles of reason and philosophy. Anon.—no date—p. 215.

† Id. 257. I have lately found that this is the 1st edition of Baxter’s celebrated Essay.

‡ Locke’s Essay, 21st edition.—1 vol. p. 213.

that our dreams should be for the most part so frivolous and irrational, and that the soul should retain none of its more rational soliloquies and meditations.”* We might almost imagine, that this passage was composed in support of the Organic Theory, since developed by Gall. Some feeble anticipation of such a system, seems to have been floating in the mind of Locke.

Hartley seems also but little inclined to attribute these phenomena alone to the soul. His views, as far as they go, are clear and satisfactory. “Dreams (he says) are nothing more but the imaginations, fancies or reveries of a sleeping man; and they are deducible from the three following causes. 1st, The impressions and ideas lately received, and particularly those of the preceding day. 2d, The state of the *body*, particularly the *stomach* and *brain*. 3d, Association.”† The scenes which present themselves are taken to be real, we do not consider them as the work of the fancy; but suppose ourselves present and actually seeing and hearing what passes. Now this happens, because we have no other *reality* to oppose to the ideas which offer themselves: whereas, in the common fictions of the fancy, while we are

* Id. p. 87.

† Hartley on Man. quarto—p. 226.

awake, there is always a set of real external objects striking some of our senses, and precluding a like mistake there : or, if we come quite inattentive to external objects, the reverie does so far put on the nature of a dream as to appear a reality.”*

Beattie appears to have entertained a very confused idea of the nature of the soul ; and even to have conceived, that some of her faculties fall asleep while others remain awake. He does not, however, exclude the influence altogether of the corporeal organs. “ The imagination or fancy (he remarks) seems to be almost the only one of our mental powers, which is never suspended in its operations by sleep ; of the other faculties some are more, and others less affected, and some appear to be for a time wholly extinguished.”† “ Persons (he continues) who think much and take little bodily exercise, will, perhaps, be found to be the greatest dreamers ; especially, if their imagination be active, and *their nervous system* very delicate.”‡

Darwin’s doctrine is also connected with corporeal relations, as may be found in his observa-

* Id. p. 227.

† Beattie’s Dissertations, moral and critical. 1 vol. p. 272.

‡ Id. p. 274.

tion, that the “perpetual flow of the trains of ideas which constitute our dreams, and which are caused by painful or pleasurable sensation, might at first view be conceived to be an useless expenditure of sensorial power.”* We at least learn, that in his opinion, they really occur during an accumulation of this power, when he adds, that “our dreams in the morning have greater variety and vivacity, as our sensibility increases, than at night when we first lie down.”† But this hypothesis is not less vague, though apparently more philosophic than the exploded systems of the nervous fluid and animal spirits. The sensorial power is in fact the nervous fluid stripped of its substance and reality, and reduced to a quality or attribute.

Professor Stewart’s explanation is altogether psychological, but however ingenious, is not even satisfactory to himself. He maintains “that all our mental operations which are independent of our will, may continue during sleep; and that the phenomena of dreaming may perhaps be produced by these, diversified in their apparent effects in consequence of the suspension of our voluntary powers.”‡ That the same laws of association,

* *Zoonomia*, London 1801, 1 vol. p. 287.

† *Id.* p. 302.

‡ *Philosophy of the human mind.* Octavo, p. 333.

which regulate the train of our thoughts while we are awake, continue to operate during sleep ; but the influence of the will being suspended, all our voluntary operations, such as recollection, reasoning, &c. must also be suspended.”*

To this hypothesis, he tells us, that Mr. Thomas Browne and Mr. Prevost, offered one and the same objection, viz : That unless the will were active, there could be no effort of attention, and without such an effort, there could be no recollection : yet, we recollect our dreams, although the hypothesis supposes that in sleep the will does not operate. Professor Stewart expresses himself sensible of the force of this objection, and acknowledges that he is far from being satisfied, that it is in his power to reconcile completely the apparent inconsistency. He, however, adopts a solution offered by Mr. Prevost, viz. that in perfect sleep there is no recollection ; and that when we remember our dreams, our sleep has not been perfect. And he adds, that in bodily indisposition, the disturbed state of our rest may prevent the total cessation of the power of attention, which may enable us afterwards to retrace our dreams, or some accidental association may renew the train of ideas ; and if we are satisfied that they once passed through

* Id. id.

our mind, yet not during our waking moments, we have no other alternative but to regard them as a dream.*

This last observation can scarcely be controverted. On awaking in the morning, we naturally advert to the occupations which are to employ us during the day, and the persons with whom we wish or expect to communicate. The moment they occur in our reflections, we perhaps recollect that we have been dreaming of them. But surely this is only an argument that our sleeping thoughts are recalled like our waking, by the association of our ideas. It neither proves nor disproves his hypothesis. If the influence of the will, and the exercise of attention may be suspended during the course of those thoughts which pass through our mind while asleep, and which yet may be recalled by the force of association, so may they be suspended also during our waking thoughts, and with a similar result. But, if they be necessary to our recollection in one case, they must in the other.

With respect to the former solution of the difficulty viz. that the disturbed state of our rest may prevent the total cessation of the power of attention, or in other words that we are not quite

* Id. note O.

asleep during dreams, (which by the way appears the most prevalent opinion entertained at present on the subject,) it is only necessary to consider the difference between sleeping and waking, and reflect on our daily experience, to subvert the position. So long as *we sleep* we are, with some singular exceptions, either totally insensible, or sensible only of internal sensations. In the transition from sleeping to waking we are perhaps passively and involuntarily sensible of external impressions. And when these force themselves on our attention, or when we can voluntarily attend to them, from that moment we are fully *awake*. Nor are we conscious of being awake until we perceive those impressions, whether by compulsion, or with our will. Sometimes we notice the very moment this occurrence takes place; but in general, if we are not suddenly awakened, we perceive our sleep gradually retiring—we are reluctant to resign its embraces; we cling to it as long as we can; thoughts pass in crowded trains through our minds; yet these thoughts are not dreams. They assume no bodily shape or visionary semblance—we regard them as we do the current of our waking reflections, we direct their course as we please, and we know that we can break through the dubious remnant of our sleep, the moment that we will; it is otherwise when we actually sleep. The ge-

nerality of our thoughts assume a corporeal appearance, and pass in fantastic procession before us. If our dream be terrific we struggle to escape from the object of horror, and that struggle awakes us. Once to a certain extent awake, we banish with an effort the little residue of sleep; that effort is an act of the will; but whether our previous visionary struggle can also be ascribed to its power is a question too involved for me to disentangle.

Yet I am tempted to venture a reflection which, upon the principles of the *new* philosophy, may lead to a solution of the difficulty. If a single organ be awake, and a single motive be presented to it, it acts in obedience to that motive without choice, without judgment, without a decision, and of course, without any intervention of the will. But if two motives offer themselves to the faculty in question, and it chuses between them, or if two organs are awake, and judge between the claims of two opposite motives, one applicable to this, and the other to that propensity or sentiment, and that a decision is the result, whether to act or to forbear, to pursue or to fly, this decision, though in a dream, appears to be an act of the will. It would be called so without hesitation, if these operations happened to take place during our waking moments. Are we then to conclude, in op-

position to so respectable an opinion as that of Professor Stewart, that our voluntary powers are not always suspended when we dream?

But these are not the difficulties which appear to me to weigh most against his hypothesis.

In supposing that the influence of the will is suspended, it also supposes, as this revered philosopher expresses himself, that all our voluntary operations, such as recollection, reasoning, &c. must also be suspended.—If there be in nature pure mental operations, recollection and reasoning are entitled to the rank; yet we learn from this hypothesis that a simple essence, such as the soul is considered, can be at the same moment, with respect to its different powers, awake and asleep—all its operations, which are independent of the will, may continue, but its recollection and reasoning must be absolutely suspended. Dr. Beattie's explanation involved the same incongruity. All the faculties, according to him, are more or less affected, and some for a time wholly extinguished, while the operations of imagination or fancy are alone unsuspended by sleep. The elucidations of Hartley are exempt from this inconsistency, and remove every difficulty but one—why sometimes we dream, and sometimes do not. Darwin repeats an exploded hypothesis in a more plausible

form: Locke simply discusses the phenomena of dreaming in proof of his position, that men think not always; he does not attempt to account for them; yet from the questions detailed in the passage I have quoted above, it is manifest that he was inclined to refer the explanation to organic, rather than to spiritual operation.

If we but do so likewise, all these difficulties vanish; we are not driven to the absurdity of supposing that sleep is necessary to a pure spirit, and that its simple essence may be half asleep and half awake—a moiety of its powers suspended or extinguished, and another moiety active and busy. We may look for the solution in the corporeal organs of the soul, and not in the soul itself; there is nothing incongruous in supposing that some of these organs may be in a state of activity while others are at rest. “Watching (says Dr. Spurzheim) is called the state wherein the will can put in action the organs of the intellectual faculties, of the five senses, and of voluntary motion; but it is impossible to define watching as the state wherein all these organs are active, for it cannot happen that all the faculties should be active at the same time; all organs, being fatigued, take rest, and this state of rest is sleep; but any particular organ, or even several organs, may be active while the other organs rest; then the pe-

cular sensations or ideas which result from this particular activity constitute that which is called *dreams*, which are more or less complicated according to the number of the active organs.”*

This, on a comparison with the preceding opinions, appears to be a probable and satisfactory explanation, as far as it goes ; but our curiosity requires a more detailed elucidation of the nature of sleep. It may properly be said, that it is rest after fatigue ; but we know that it is something more. We can rest when it is necessary, without that intense and predominant change which locks up our senses and intellect, and envelops us with inadvertence and oblivion of the past, present, and future. We cannot reflect on the nature of this state, without being satisfied that it involves some important vital process, so indispensable as to be of daily recurrence, and of such general influence as to engage every part of the frame, but particularly the organs of thinking, sensation, and voluntary motion. If we ask ourselves what process is of prime necessity to those organs, we can answer without difficulty, *that* which repairs their waste, and preserves their consistence and vigour—the process of assimilation. Whatever may be the result of its operation in the bones and muscles,

* Spurzheim's Physiognomy, 1st edition, p. 216.

and other coarser parts of the body, we can scarcely reflect on its action upon the delicate texture of the brain and nerves, without perceiving that it must be accompanied by powerful and overwhelming effects. These are the fragile instruments of thought, feeling and motion ; and no wonder that a change which affects their very structure should be attended with a cessation of their functions, and the actual *Paralysis* of sleep.

Yet this is but a conjecture, and so obscure and inaccessible is the subject, that, however we may wish for certainty, we must be contented with mere plausibility. There is no decisive fact to support the position ; and, like first principles, if its own reasonableness does not carry with it conviction, it must, for the present, remain destitute of proof. Still we ought not to disregard any phenomenon that may lead to clearer views of the subject. Most animals sleep shortly after their meals ; and there are few climates in which men do not allow themselves the same indulgence. In these countries, this is not so generally the practice ; and it may be a question, whether it is not by an effort that we at first acquire a habit not natural to us, and overcome one which we originally found to be almost irresistible, and to which, perhaps we should be compelled to submit, if we were not able to interrupt or suspend the process

of assimilation in the nervous system. It is true that we can have no direct influence over this process in the grosser parts of the frame ; but our power may be more extensive in the seat of the intellect. By an effort we can continue to think—by thinking we *exercise* the organ of thought—by exercising the organ we may possibly interrupt or defer this process, whose invasion, when effectual, subdues every faculty of the mind. Young children are destitute of this power—they sleep almost incessantly ; but nutrition and assimilation are comparatively more necessary to them than to adults, and are carried on in a more than proportionate measure in their system. Old persons are drowsy, and find it difficult to keep themselves awake after food, yet court sleep in vain during the hours they have been accustomed in the earlier part of their life, to expect it. This may be because their debilitated powers do not enable them to suspend the process of assimilation, and they are compelled to submit to its influence as soon as it operates ; while the decay of nature, at the same time, evinces that the function in question is less constantly, regularly, or effectually performed : nor is the fact to be forgotten, that disturbed sleep, and frightful dreams have frequently been ascribed to disorder of the digestive organs, whose preparatory office is indispensable to nutrition and assimilation.

It is true, that sleep after meals is most irresistible while the food is still in the stomach, after digestion has commenced, and long before assimilation has taken its turn. But we are ignorant how far the arrival of new matter in the blood-vessels may instantly contribute to the deposition of the old; as an additional number of balls put into a tube, at one extremity, will force out some of their predecessors at the other.

I enter into no argument on the subject. I repose on the rational presumption that sleep is something more than rest after fatigue—that it is probably the consequence of an important vital process in the delicate and fragile instruments of the mind—and that no process can be more requisite to those instruments, nor more likely to produce the effect, than the process of assimilation.

That this process is the proximate cause of sleep, receives the strongest confirmation from the facts detailed in the article SLEEP, in Rees's Encyclopedia, probably the last and best treatise on the subject, and which evidently points, throughout, to this cause, though the able writer of the article inadvertently suffered it to escape his attention. He appears to be satisfied with the common explanation, and adopts the unsatisfac-

tory opinion that “the exhaustion of the powers of the animal organs, *by exercise*, is the determining cause of sleep.”* Yet he adverts to two facts, of a general nature and decisive importance, which subvert this opinion. “Some, says he, have called *fœtal existence* a perpetual sleep; but the animal organs, *never having yet been exercised*, can hardly be said to be in a state of *repose*.”† “The state of torpidity,” he continues, “in which many animals pass the winter months, *cannot properly be called sleep*; it is not the *repose* of the animal organs *consequent on fatigue* produced by their exercise, but is a peculiar condition of the whole frame, affecting the internal as well as the external organs, and caused directly by the action of the cold.”‡

These two causes are alike in one particular, the sleep is not *repose after fatigue*. In the former, the process of assimilation is proceeding in every part of the frame, and in the brain as well as elsewhere—its operation, therefore, cannot be excluded from such participation in the phenomenon as it may be reasonable to assign it. In the latter case it is well known that the Bear, the Marmot, and other hybernating animals retire to their winter’s repose, in a state of corpulence and

* Rees’s Encyclopedia, 23d vol. Article, SLEEP.

† Id. ‡ Id.

obesity, which they lose before they shake off their slumber in spring. They use little or no food in their retreat, yet the absorption of their superfluous flesh and fat may be applied by the assimilating process to the nourishment of the superior organs, including the brain. If the cold alone reduced them to a state of torpidity, by paralyzing this organ, their emaciation would still remain to be accounted for ; but the action of the absorbents, and the process of assimilation remove every difficulty and explain every fact.

In complete sleep, hunger and thirst are not felt, as remarked by the same writer, “ yet great hunger prevents sleep ; and cold, affecting a *part* of the body, has the same effect. These causes operated on the unfortunate woman and her family, who lived thirty four days in a small room, overwhelmed by the snow, with the slightest sustenance : they hardly slept the whole time.”* It does not clearly appear why the cold should have affected only a *part* of the body, and it is declared by this writer, “ that intense cold, affecting *the whole body*, exhausts the animal powers and brings on sleep, which is speedily fatal.”† The only facts certain in this account, are, that they lived for thirty-four days with the slightest suste-

* Id. † Id.

nance, and hardly slept the whole time. The process of assimilation might therefore have been only in proportion to the nourishment, and the want of sleep seems to be accounted for by the absence of this process. If the cold had affected only a part of the body, and was not intense, it might have kept the thoughts active, and the exercise of the brain might, for a time, have interrupted the process of assimilation, even if there had been the usual supply of nutriment; but if the cold had invaded the entire frame, and was in the highest state of intensity, its mode of action would probably have been, not to exhaust the animal powers, but to paralyze the brain itself. The sleep it would induce must therefore be speedily fatal.

But in the instance of this woman and her family, it may still be said, that the absence of sleep is sufficiently accounted for by the unintermitting pain of cold and hunger. But more violent pain than that of either could not postpone sleep for any considerable duration. “Even stripes and tortures cannot keep off sleep beyond a certain time.”*

If a great exhaustion of the animal powers—or possibly, to advance a step nearer to the actual fact—if a great exhaustion of the *substance* of +

* Id.

the brain and nerves should be the consequence of torture or over-exertion, such a state of those organs must be favourable to the occurrence of the assimilating process; and if there is a supply of nourishment in the frame, it naturally takes place, and the disturbance it necessarily creates in renewing those delicate substances, may be the occasion of sleep: if there is *no* nourishment to renew them, the consequence is not sleep, but death: if there is nourishment, and that the torture or the labour is beyond the strength of the individual to endure, the brain, as already mentioned in the case of excessive cold, becomes torpid and paralyzed, and death, under these circumstances, also follows of course.

It is well worth inquiry, whether those various vegetable substances, which, being taken into the stomach, “bring on a condition of the brain favourable to sleep,”* do not operate in the same manner, and in place of producing the process of assimilation, affect the brain with a temporary paralysis.—If they bring on this process, they must be useful auxiliaries—if *not*, and this is the more probable part of the dilemma, whatever be their apparent effects, they can only be prejudicial, unless where they are administered, not as soporifics but as anodynes.

* *Id.*

The several circumstances, just under review, afford an easy explication of the numerous facts detailed by the same writer.—There is no reason to suppose that the process of assimilation had not materials to carry on its operations in “those boys, who were completely exhausted by exertion, and fell asleep amid all the tumult of the battle of the Nile,”* nor in the soldiers, “sleeping amid discharges of artillery, and all the tumult of war,” “nor the couriers sleeping on horseback, nor coachmen on their coaches.” This last is a very common phenomenon in this country, but I fear we must ascribe the peculiarity, in question, rather to the paralyzing effects of vegetable products taken into the stomach, than to the more wholesome accession of the assimilating process.

Most of the other circumstances mentioned by this writer have already been adverted to, and they are all of easy and obvious explanation upon the proposed hypothesis ; for example, indigestion and various bodily affections produce sleeplessness.”† From preceding observations, it may readily be understood, that in digestion the nutritious matter continues in the stomach, instead of being carried into the system, and deposited in its due proportion in the brain and nerves. “All

* Id.

† Id.

mental occupations attended with intense thought and great interest prevent sleep; and any great affections of the mind have the same effect.*” The solution of this phenomenon has already been given; but it is here to be noticed, that the very intensity of these meditations and passions in a certain time induce sleep. They exercise and exhaust the brain, and this exhaustion renders a renewal necessary by assimilation; and according to the hypothesis, this process cannot act on the substance of the brain, without occasioning sleep.

“ A full repast is often followed by sleep, even in animals, as dogs. The distention of the stomach excites the circulation, and this brings on a condition of the brain favourable to sleep.”† This condition, under the circumstances here noticed, can scarcely be any other than the activity of the assimilating process. “ After the sleep has lasted long enough to restore the animal powers, we awake without any change or occurrence which can be shewn to affect particularly the brain or other parts, of which the action was suspended by sleep.”‡ In other words, after the exhausted substance of the brain and nerves has been renewed by the assimilating process, we awake from the sleep which was the concomitant of its action. It

* Id. † Id. ‡ Id

would not be easy by any experiment to shew, that any change had taken place in those parts ; but the fresh vigour with which we think and act is, in some degree, a proof of this change and which is indeed implied in the very phraseology of this writer—"The restoration of the animal powers."

He adds, "there are rare examples of individuals who have gone on sleeping for days, weeks, and months ; but these histories are not accompanied with such particulars, as would enable us to judge of the cause."* It would be well worthy the attention of future inquirers to ascertain whether there are such facts in those cases, as would decide whether the cause of this state of torpor is not the protracted duration of the assimilating process : such, for instance, as the patient being overburthened with the obesity of a bear or a marmot in the commencement of his slumbers, and like them, emaciated at their termination, without any other assignable cause for the change. It is, however, a well-known fact, that corpulency predisposes to sleep, and sleep to corpulency. Does this happen because during sleep, the process of assimilation is most active in every part of the frame ? Having produced an exuberance of flesh and fat, these productions may become in their turn the cause of somnolency, by conducing to the

* Id.

more partial activity of the process in the brain ; or at least the superfluous accumulation may form a kind of reservoir for the essential purpose of renovating the superior vital organs, when the usual measure of nutrition is no longer supplied.

Thus we may clearly comprehend the different, yet strangely analogous modes of action of vegetable poisons, intense cold, external injuries, and the assimilating process, on the brain. They all render it comatose, torpid, and paralyzed ; but none of them, except the last, are endowed with any but destructive powers. The assimilating process alone can renovate and restore the drained and exhausted organ : and even though the effect of its activity is to sink us in stupefaction, that very stupefaction is natural, refreshing, revivifying sleep.

A very formidable objection to this theory, has however, occurred to me. If the deposition of new matter by the blood-vessels creates such a disturbance in the brain, as to occasion the paralysis of sleep, why should not the action of the absorbents produce a similar effect, and in removing the old matter, also bring on the same state of torpor and insensibility ? That it does not, must be distinctly admitted ; for the action of those

vessels cannot but exist as well in the brain as elsewhere during our waking moments, and is probably most powerful during the intensity of thinking, as well as of bodily exercise. But, if the hypothesis be true, this difficulty must admit of a solution. Can we then discover such a difference between the operation of these two actions on the brain, as will sufficiently account for circumstances so opposite?

In absorption, those particles which are removed, may leave the remaining cerebral mass in the very act of thinking, or at least not unfitted for the function. Every particle of the mass has already formed a part of the instrument destined to this office, and subservient to the exercise of one or other of the mental faculties. The new particles have never been exercised in any mode of thinking. They can differ but little on their first arrival, from so many foreign bodies of equal dimensions; and is it surprising, that the oppression occasioned by their deposition, should be felt throughout the delicate volume of the brain, until they are perfectly assimilated with the other particles, and fitted like them for mental operations?—a result which may, perhaps, in some measure, be effected by the very sleep which they induce.

The nervous fluid and animal spirits have long

since been excluded from all agency in the system. It is, therefore, scarcely necessary to advert to the antiquated theory of Haller, who, in seeking for the proximate cause of sleep, conjectures that this phenomenon “arises either from a simple absence, deficiency, and immobility of the spirits, or from compression of the nerves, and always from the motion of the spirits through the brain being impeded.”* “But that, if while the rest of the emporium of the senses and muscular motion is at rest, some part remains open, is pervaded by the spirits, and watches,” then, that our dreams occur; and also somnambulism, “if certain voluntary motions are conjoined with the perceptions of the mind.”† Yet, it is satisfactory to perceive, that all the explanation that this great physiologist endeavoured to derive from these imaginary essences, to satisfy his rational thirst of inquiry, may be found in the substantial reality of the brain and nerves—their partial exhaustion by exercise, and their indispensable renewal by the process of assimilation.

This diurnal operation may begin later, or cease earlier in some portions of the brain and nerves than in others. Those portions, while exempt from its influence, may be as active as the entire system would be, were the individual awake.

* Haller's first Lines of Physiology, p. 285. Edinburgh, 1801.

† Id. p. 283.

The thoughts which originate in these vigilant organs, not being compared by means of the senses with external objects, assume the substantial forms of reality, and constitute our dreams. Volition, as far as it is inherent in any organ, may exert itself to the extent of its power. But it can have no power to stimulate the neighbouring organs which continue asleep, or to put the limbs in motion, whose nerves remain subjected to the *assimilating process* which renders them torpid. But if those nerves have recovered from its effects, they will naturally submit to any volition accustomed to govern them—and this circumstance will account for all the perplexing mysteries of somnambulism. This phenomenon is of rare occurrence; and the nerves of motion are so seldom exerted in sleep, that hitherto the will has *then* been supposed in a state of abeyance. But we can much more rationally account for the various phenomena of dreams, night-mare and somnambulism, by supposing that the will may be active in any of the cerebral organs which happen to be awake, yet destitute of power to put the limbs in motion as long as the nerves of those limbs are involved in the stupor of sleep, and invested with this power from the moment that the stupor in question is removed from those nerves. But it is not to be forgotten, that if the brain be altogether paralyzed by sleep, so must the whole

body. Somnambulism, therefore, can only take place when part of the brain is awake and in communication with the nerves of locomotion. These considerations, with others detailed above, will also suffice to account for the fact recorded by the excellent writer, so often referred to, "that many soldiers, in the retreat of Sir John Moore, fell asleep on the march, and still continued to walk with their comrades."*

But whatever may be thought of these speculations, there is no difficulty in comprehending Dr. Spurzheim's development of the nature of dreaming : and if we are acquainted with the inadequate theories of his predecessors, to comprehend his explanation is but an easy step to its unqualified adoption. It accounts for every phenomenon connected with the subject, hitherto unexplained. If the whole brain is locked up in sleep, there is no dream. If a portion of it is emancipated, thoughts peculiar to that portion arise, and those thoughts are dreams. The mechanic's imagination may rove among machinery, the mathematician may solve a problem, the orator pour forth unstudied eloquence, the poet unpremeditated verse, the wit delectable jests, the musician unprecedented har-

* Rees's Encyclopedia.—Article, SLEEP.

mony ; yet this does not always occur, but occasionally. If the peculiar organ happens to be asleep, there is no music, no wit, no poetry, no oratory, no mathematics, no mechanics—a different faculty may be active, and these individuals may wander through inextricable difficulties, or fly before wild beasts, or combat with enraged assailants, or dissolve in a cold sweat at the frightful visit of some spectre from the grave. It is not because the organ may have been frequently or recently exercised, that it is employed in a dream ; it is simply because it has escaped from the trammels of sleep which still envelope the remainder of the brain, or at least the senses, which open a communication with the external world, and supply the only means by which we are informed whether similar objects of thought are realities or illusions. This theory, therefore, explains why we sometimes have dreams and are sometimes without them—why we sometimes dream on the subject most familiar to our reflections, and sometimes ramble into the most unaccountable fancies—and lastly, why happiness and misery are occasionally the companions of our sleep, according as peculiar organs are gently affected or rudely agitated by the thoughts which engage them—pleasure frequently losing itself in pain, as the mental disturbance increases, till at length the accumulating uneasiness trespasses on the

sensorium, or the very organs of sense, when, suddenly awaking, we find an unexpected relief from our griefs, vexations, and terrors.

Many inquirers have been perplexed to account for the lively conversations we hold in our sleep, involving rational replies, sarcastic retorts, and alternating arguments. This, however, can be explained without any recurrence to the plurality of organs. Whatever we are capable of thinking without an effort, we are susceptible of dreaming; and during our *waking reflections*, we frequently imagine what kind of reply an adversary might make to an observation we had dropped—we immediately enter into the warmth of argument, by coining an answer of our own in return; and when we have said all that occurs on that side of the question, a reply naturally suggests itself on the other, all the merit of which we ascribe to our antagonist; and thus the disputation goes on as if *two different minds* were engaged in the contest, the words by a strange illusion tingling in our ears, and the ardent looks and forcible gestures flitting before our eyes, till some real object, breaking on our attention, recalls us to the perception of the external world, and the nature of the reverie, which, till now, we thought real. In sleep there is no such intrusion; but the dream and the re-

verie do not differ from each other as long as they last.

A dream must, therefore, be the necessary consequence of any portion of the brain being awake, while the senses are asleep; and the question naturally occurs—are the senses ever awake while the brain is asleep; and if so, what is the consequence? Certainly, not the perception of external things, because the sensorium being involved with the remainder of the brain in sleep, the rays of light would merely fall upon the retina, and the vibrations of the air on the auditory apparatus, without conveying any farther the sensations of colour or sound. But if those sensories, and other limited portions of the brain, were awake with the organs of sense, the obvious and natural consequence is actually one of very common occurrence. The active organs continue to think, but their thoughts do not appear to be dreams, because our communication with the external world, by means of our senses, prevents this phenomenon; but at the same time, we are sensible that we *are*, to use a common expression, half awake and half asleep; and there are few individuals, who have not frequently indulged themselves in the luxury of observing the gradual departure of their slumbers, and the renewal of their active and proper existence. Yet, possibly, if the

organ of a single sense is awake, as for example, that of hearing or feeling, its effects may not be altogether complete, but so far, merely as to satisfy us of the illusory nature of our internal perceptions ; and thus we are enabled to account for the extraordinary circumstance of *dreaming* that we are *dreaming*.

These several predicaments, therefore, present no less than seven different states of sleeping and waking:—1. When the *entire brain and nervous system* are buried in sleep, and then there is a total exemption from dreaming.

2. When *some of the mental organs* are awake, and *all the senses* are asleep ; then dreams occur and seem to be realities. If among these busy organs, should be one or two, whose peculiar powers and affections will readily occur to the admirers of the organic theory, their disturbance, whether occasioned by disorder of the digestive functions, or any other cause, will sufficiently account for uneasy dreams, frightful visions, and oppressive night-mares.

3. When the above-mentioned conditions exist, and the *nerves of voluntary motion* are also in a state of wakefulness, then may occur the rare phenomenon of somnambulism.

4. When *one of the senses* is awake with *some of the mental organs*, then we may be conscious during our dream, of its illusory nature ; and if the *nerves of voluntary motion* concur, somnambulism may also accompany these circumstances.

5. When *some of the mental organs* are asleep and *two or more senses awake*, then we can attend to external impressions, and notice the gradual departure of our slumbers ; a state in which we consider ourselves neither awake nor asleep.

6. When we are *totally awake* and in the full enjoyment of all our faculties and powers.

7. When under these circumstances we are so intimately occupied by our mental operations as that we *do not attend to the impressions of external objects* ; and then our reverie deludes us like a dream.

Thus, as the process of assimilation ceases to operate, one portion after another of the brain and nervous system is restored to a state of vigilance and energy : and thus the verification of this conjecture, in conjunction with the explanations afforded by the organic theory, will be fully adequate to remove all that has been obscure and inexplicable in these mysterious phenomena.

These views may also furnish a hint to physicians on the probable causes of one or two common affections of the head. If the process of assimilation is continued in the brain after a due interval of rest, and that a portion of this viscus is asleep, while the remainder and the organs of the senses are awake, the concomitant stupor and dulness may well be identified with the most frequent species of head-ach, which scarcely amounts to pain, and is little more than a lethargic and sluggish inertness accompanied by mental confusion and ineptitude : but if, on the contrary, the assimilating process is defective, and that the substance of the brain is not sufficiently renewed, a different species of head-ach may be the result ; but it is always attributed to a concurrent effect—the absence of sleep. It is, however, obvious that neither this, nor the former affection can be confounded with that acuteness of pain, which is connected with the over-distention and pressure of the vessels on the brain.

It is also to be inquired whether more serious disorders may not be the consequence of disturbance or partial suspension of the process in question. How often is mania preceded by protracted watchfulness ? and is not a full allowance of nourishment considered, by the most respectable modern practitioners, as one of the most indis-

pensable requisites in the treatment of insanity ? and is not the return of intellect in general preceded by the restorative action of sleep ? It may indeed be maintained by an advocate of the organic theory, that madness is sufficiently accounted for by the protracted over-excitement of a particular organ ; but this very over-excitement, according to the hypothesis, causes the absorption and waste of some portion of the brain ; and its protracted duration may interrupt the healthy action of that very process, which alone can renew the exhausted substance whose instrumentality is necessary to the operations of the mind. If the healthy action of this process can be restored, it is accompanied by refreshing reinvigorating sleep ; and in numerous cases, if the natural consequence is the returning health and sanity of the patient, in others we may be disappointed, should the malady have proceeded so far as to injure or destroy the organization on which the intellect depends. It is by no means, however, contended that the cause assigned will account for every species of mental derangement ; and it may, in none of them, be more than a concomitant of some more operative, but unknown cause.

If this theory will account for some disorders, it may also be serviceable in indicating remedies, and it may possibly instruct us that in many cases, and perhaps in most, the best opiate that can be

administered is natural and comfortable nutriment, which by instigating the process of assimilation, may bring on the most profound and healthful slumbers. In some cases a great loss of blood is followed by restlessness and total deprivation of sleep, accompanied by delirium. It is evident that these symptoms originate in the want of a sufficient quantity of blood to deposit the nutritive particles where most required in the frame, and particularly in the encephalon. To lessen that quantity, with a view of diminishing the apparent feverishness, would, under such circumstances, be death to the patient; but the opposite system of administering the comforts of wine and animal juices, and thus contributing to the increase of the blood, must have the most beneficial operation, by inducing the assimilating process, the consequent sleep, and all the cordial and concurrent effects of their powerful agency.

I should not have hazarded these latter observations, so little within my province, but that they were suggested by facts harmonizing with, and supporting the hypothesis of sleep which I have ventured to propose—and if that hypothesis shall ever be verified, the application I have made of these facts cannot fail to be useful. I am therefore unwilling that these views should be lost, and I am not so confident of their importance as to

imagine they will speedily occur to another. With respect to the theory of dreaming advanced by Doctors Gall and Spurzheim, it is but one instance out of numberless others, in which their system will be found on investigation to correspond at every point with nature and truth ; and if we are satisfied that they are right even in this one instance, we shall not be eager to reject the remainder of their singular doctrines, without affording them at least the advantage of an equitable, candid and dispassionate examination.

THE preceding arguments have been by some thought inconclusive because no proof has been advanced, that during dreams the brain is partly asleep and partly awake. It is true this has not been *directly* attempted, for in the nature of things, such an enterprize could not prove very successful. All that I considered requisite in the question, I trust I have accomplished, in shewing the inadequacy and imperfection of the several theories which were most highly approved of, before the promulgation of Doctors Gall and Spurzheim's opinions ; and that these philosophers have succeeded where their predecessors had failed, in explaining with precision and clearness all that was difficult or obscure in these perplexing phenomena. It was scarcely to be expected that I should introduce,

by way of episode, into an essay like this, the volume of facts and observations by which they have endeavoured to establish the plurality of organs. It is enough if my reader is satisfied that this fact, or let us be contented to call it this supposition, in accounting for every circumstance, affords a sufficient foundation for a rational and satisfactory theory of dreaming.

It has also been asserted, that there are no grounds to suppose that the assimilating process does *not* occur in the brain except during sleep. Neither, it may be replied, is there any evidence of the affirmative—so far both sides of the argument are equally balanced ; but it seems rather more probable that this process is in operation, not only in the brain but in every part of the frame at intervals of inactivity and repose. The athletic arm accustomed to laborious exertion, becomes every day more muscular and powerful ; but if it were allowed no intermission from toil—nay, if it did not enjoy a due portion of quiet, does any one doubt but its vigour would diminish and its bulk waste away ? It cannot, therefore, be the labour that encreases its size—its influence can only extend to render it more fit to receive the deposition of the nutritive particles ; and if that deposition be supposed to take effect on the cessation of exercise only, every circumstance inclu-

ded in these phenomena finds a distinct and easy solution.

What exercise is to the limbs, thinking is to the brain ; and the latter, like the former, may be exerted to intensity, or relaxed to lassitude and listlessness. As motion, whether slothful or vigorous, so thought, whether feeble or powerful, seems an indispensable condition of being awake ; it is caught from organ to organ, as this or that association stirs up their energy ; but although only one can be active at a time, the unity of the man and the concord of his volitions, appear to require that every faculty he possesses should exert an attention subservient to that peculiar power of the mind, which happens to domineer for the moment ; this passive vigilance and active intellection would, therefore, take their turn till the majority of the organs, in a state of fatigue or exhaustion, forego all employment and receive, *at rest*, a renewal of their substance from the process of assimilation.

But it may still be objected, that the nerves of organic life are always in action.—How therefore can they be renewed if the process in question only takes place in an interval of rest ? This is indeed a formidable difficulty, though perhaps not an invincible one, notwithstanding the obscurity

of the subject. Of all the organs of the human frame, the heart is the most incessant in its motions; we may therefore confine our inquiries to the phenomena it displays. It has its systole and diastole, its contraction, and expansion—during the former the nerves may be considered in a state of exertion, and in the latter in a state of relaxation and rest; neither lasts long; the alteration is most rapid;—yet if the designs of providence require that assimilation should in general take place during an interval of rest, the present instance affords no exception; and we may as readily conceive that the coronary vessels may repeatedly pour out the nervous secretion, at the moment the nerves remit their action, as that the condensing valve of the steam-engine should permit the escape of a due portion of water, at the requisite juncture. Thus the phenomena of organic life will present no anomaly in the arrangements of nature; and the law which governs these circumstances, will be found not less general than any other of the laws established by the Creator.

It has next been objected, that the effects of the process of assimilation on the brain and nervous system, cannot be considered as the cause of sleep, inasmuch as sleep is incident to plants and many animals which are altogether destitute of

brain and nerves. With respect to plants, the phenomenon is manifested by the drooping or folding together of their leaves or leaflets ; and this change is said to be occasioned by *the withdrawing of the stimulus of light*, and is merely *presumed* to be a state of rest to their vital functions.* But this circumstance, whatever may be its nature, is not by any means so general in the vegetable kingdom, as sleep, in the animal ; and therefore its proximate cause cannot possibly be regarded as so indispensable an agent as the assimilating process, or whatever else is the proximate cause of the latter—but the vital functions of plants have so little resemblance to the vital functions of animals, and are so utterly dissimilar to those superior functions which depend on a brain and nervous system, (which are exclusively concerned in the hypothesis,) that no accurate analogy can well be instituted between them—much less between the conjectural rest of the one, and the unequivocal repose of the other ;—and the naturalist, who would seriously attempt to establish the comparison, might as rationally pretend to ascribe both effects to one and the same cause, and decide that the sleep of animals, as well as plants, is occasioned by “the withdrawing of the stimulus of light.”

* See Rees's Encyclopedia, article, *Sleep of plants*.

But with respect to those inferior creatures which are destitute of brain and nerves, it is maintained by physiologists, that the nervous substance is irregularly diffused through the entire of their structure : there is therefore no necessity to seek for a peculiar explanation of their sleep. Whatever be their mode of imbibing nourishment, they must necessarily be in a state of wakefulness while employed in the act ; but after they have digested their food, it must, as in superior animals, be conveyed through their system, however little analogous the instruments of transmission, and deposited, as in them, in every part of their mass. This deposition taking place on the nervous substance intermingled with their texture, may be accompanied with the same result, as when it affects more perfect systems ; the difference between their sleeping and waking, it is true, is not so obvious, as where a larger portion of intelligence is suspended by the paralyzing effects of the process ; and indeed the whole of their existence seems little better than a perpetual sleep.

A fourth objection insists, that if the process of assimilation be supposed the cause of sleep in hybernating animals, all their superfluous store of fat, converted into nervous matter, and deposited in their head, would swell their brain to so

unconscionable a size, as to render the theory altogether incredible ; and also, that the perspiration of those creatures sufficiently accounts for their meagerness at the end of their retirement, without supposing their previous obesity to be exhausted in the manner presumed in the hypothesis. In these objections, the action of the absorbents has been entirely overlooked. There is no reason to suppose that they discontinue their office ; and if not, it is natural to think that they will scarcely suffer the brain to increase to any very unusual dimensions. And with regard to the phenomenon of perspiration, it will hardly be maintained that the fat will exude like oil through the pores of the skin, before it has been taken up in the usual way by the absorbents, and conveyed by them into the blood-vessels, and by *their* extremities deposited somewhere within or without the body. If within the body, the deposition of nutritious particles, being general, must as well as elsewhere, take place upon the brain itself, in support of the litigated hypothesis ; where, having performed their duty for a time, they may be carried away as before, and detruded from the cuticular pores in the form of perspiration, though so lately employed in the ministry of the intellect, and perhaps not altogether inactively, if these animals dream.

The only remaining objection which has been advanced, notices the common occurrence of our dreaming on the subject which has most occupied our thoughts during the day—and contends, that if the peculiar organ has been exhausted by this exercise, it must be in a condition favourable to its renewal by the process of assimilation; and this process, wherever it is active, precludes the possibility of dreaming. The truth of this reasoning must be admitted; without admitting, however, as a fact, that we dream more frequently on the subjects which have occupied us during the day, than on other subjects: but when this circumstance occasionally occurs, is it inconceivable that the organ should receive a portion of refreshment during the night, and from the very urgency and importance of the thoughts which occupied it during the day, return to them again in resistance and interruption of the process in question? Is it even impossible that the subject of reflection may have occupied it, without an interval, from the moment of retiring to rest, even though all the other organs may have sunk into repose? May not this incessant activity continue, for several days, to the detriment of the health? may it not even involve the entire brain, and, by preventing the accession of sleep, terminate at last in mental derangement?

Thus, however weighty and formidable these objections appeared, instead of subverting, they all contribute their aid to support the hypothesis.

But is it in the contemplation of those who dissent from these opinions to maintain that sleep is nothing more than repose after fatigue—that there is no other difference between waking and sleeping, than between labouring and abstaining from labour; and that there is no important vital process operating on the instruments of sensation, voluntary motion, and intelligence? If they allow that there is some *such* process, I should be glad they would point it out; and if it better accounts for these various phenomena than *that* of assimilation, I shall willingly relinquish my hypothesis in favour of theirs.

Will it be contended that the whole brain and nervous system may sleep during dreams? Then why are not dreams the constant attendants on sleep? Why are not all our visions accompanied by night-mare? and why is somnambulism so rare an occurrence? Will it, on the other hand, be averred that the whole of the brain may be awake while the residue of the man is asleep? Let this be admitted—but, if so, why are not the nerves of the senses and voluntary motion, which bear so strong an analogy to the brain, in substance and office, equally wakeful? Why are we not al-

ways in communication with the external world, or in other words, why are we not always awake? The process of assimilation relieves us from these difficulties, and shall we still be inclined to reject it? Perhaps, on these considerations, my hypothesis may happen to find favour, and that of Gall and Spurzheim be discountenanced:—perhaps it will be asserted that the assimilating process may lock up in sleep those parts of the brain allotted to reflection, judgment and will, but leave to the active enjoyment of its inmates the local habitation of the imagination and fancy. Even this would be a more plausible conjecture than the incongruous theory which insists that at the same moment, the soul can be partially awake and asleep; but there is as little foundation, in *nature*, for the one as the other. Gall sought with indefatigable perseverance and adequate sagacity, for some external indication of the seats of those faculties, but none could be found; yet his labour did not go unrewarded. It led him to more fortunate observations; and, by the same rational process of enquiry which guided his illustrious contemporaries, Herschel and Davy, to such brilliant and stable discoveries, he and his celebrated coadjutor, have established in the brain the *probable*—I will not say, the *certain*, existence, until other philosophers have verified their results, as other philosophers have verified those of Davy

and Herschel—they have established, I repeat, the probable existence of upwards of thirty material organs of the mind, each of which is endowed with its own peculiar desire, memory and imagination. Admitting, therefore, the more hypothetical existence of such organs, we try their verity by the indisputable test of some well-known phenomena ; for instance, the phenomena of dreaming ; and if it appears from incontrovertible reasons, that the various circumstances attendant on our dreams are utterly inexplicable on any other principles current at present than those of the organic theory, those principles have the *strongest* claims to be regarded as true. These two kindred hypotheses of dreaming and sleep afford each other a reciprocal support ; and I shall be but too much honoured, if the philosophic authors of the *one* do not consider the *other* unworthy of such an alliance.

I FLATTERED myself, that I had answered every argument by which my essay could be assailed ; but I understand, that another objection has been advanced against it, which ought earlier or never to have made its appearance—the charge of materialism. It is necessary to ascertain the meaning of this word, which has so often, and for the most disingenuous purposes, been used without

any. It has a threefold signification, and in two of its senses it conveys a manifest imputation of culpable absurdity or perverseness, fatal to virtue and subversive of society. In its third sense, whether it be guilty or innocent, I am not called upon here to discuss ; for in none of its meanings, and I shall examine them all, is it imputable to my essay.

In its first and most reprehensible sense, materialism infers that the universe created itself—that the creation is without a Creator—that the mighty fabrick, evincing design in all that is minute, as well as all that is magnificent, rose into being undesigned by Infinite Intelligence, unbidden by Infinite Power. It is scarcely possible to conceive, that opinions such as these can find an asylum in any rational mind ;—even the last remnant of reason that sticks to a maniac would intuitively reject them. It will not be said that my essay countenances this doctrine, when every line of it breathes with an effort to discover and display the hidden arrangements of God, in what is to us the most curious of his works, the mechanism of man ; and in the noblest part of that mechanism, the instruments of the mind.

In its second sense, materialism implies the double proposition that the human frame is un-

tenanted by a soul, and that there is no future state of rewards and punishments. This opinion, as pernicious to society as the former, is not so much as glanced at in the essay. But if it be inferred, as a necessary deduction from the theory of Gall and Spurzheim, (whose sentiments, so far as they embrace distinct and numerous organs of the mind, it is my pride to avow, and my ambition to vindicate,) the inference could only be made by individuals who have not the good fortune to be intimately acquainted with their principles. The opinion which these philosophers universally maintain is, that the brain is the instrument by which the soul performs her intellectual operations; and I fancy that few will be hardy enough to maintain that the soul, in this life, ever performs those operations without one. Is there a physiologist to be found who will assert the fact, or a logician that will advance the argument, that the encephalon is a useless appendage to the soul; and that she could exercise all her powers as commodiously and effectually in the empty cavern of the skull? Even the best brain which Divine Wisdom could bestow upon her would, in this view of things, be an absurd and superfluous donation.

The third and least obnoxious sense in which materialism may be employed, is that which would consider man as a simple being, whose intellec-

tual powers depend on the peculiar organization in which God has invested them, and regards the resurrection from death as the sole but sure foundation of a future state of existence. This doctrine must be acknowledged by every theologian to derive the most unambiguous support from scripture ;—the physical evidence in its favour is strong and peculiar ;—in morals it stands upon the self-same rock whereon we build our hopes of a life to come, come in what manner it may ; and possibly it may be slandered in its nature when nick-named materialism.

This opinion I have examined at large in another treatise, which has not yet been submitted to the public ; but it is unnecessary here to anticipate the discussions it embraces, particularly as in the essay now under consideration the question does not once occur ; and the argument, whether metaphysical or physiological, is pursued with so little bias to or from this opinion, or any other not necessarily involved in the subject, that the disciples of Locke and Berkley, Priestly and Stewart, may arise from the perusal in perfect amity and good will to the author, satisfied that he has not meant to undermine a single principle, or offend a single prejudice peculiar to any of their schools ; unless, indeed, Berkleyan's will complain that the existence of the body, and Priestleyan's, that

the existence of the soul, is assumed in the argument.

It was, therefore, as unnecessary as unjust to brand my essay with the stigma of materialism. So many look to the names and so few to the meaning, that an appellation, supposed to indicate every thing that is contradictory of good sense, inimical to morals, and injurious to society, affixed without discrimination by persons who, in the opinion of the world, never act without exercising their judgment, is sufficient to blast the fortune and fame of the most deserving individual who happens to become the subject of their unwise precipitation. But it is not the individual only who suffers, but the whole body of which these persons are members. What man, capable of an original thought or a bold discovery, will venture to submit his labours to their animadversion, if, in proportion to their novelty, importance and interest, they are to be visited with disregard and opprobrium in place of the honour they may have earned.

Let me not, however, be understood as casting the slightest reflection on my learned opponents. I am persuaded they acted with conscientiousness, and to the best of their judgment, but from weak and illusory motives. These learned individuals ✓

no doubt convinced themselves that it was their duty to oppose to the utmost, the tendency of opinions which their apprehensions conjured into a dangerous heresy, and which they embodied to their imaginations under the frightful appellation of materialism. If they had lived in the days of Copernicus, and were to pass a judgment on his discoveries, with their good will, the rotation of the earth would never have found its way into day light—rank heresy ! it contradicts the book of Joshua ! stifle it in its birth ! your duty to God requires the suppression of those truths which most honour him !

No, they reply, these are not truths—for truths must be known by their utility, and utility is not an attribute of heresy and materialism. Such is their argument ; but, by a dexterous use of these terms, there is not a truth in physics or morals that might not be easily transmuted into falsehood and crime. I unreservedly subscribe to the dictum of Warburton, that “ we may as certainly conclude that general utility is always founded on truth, as that truth is always productive of general utility.”* But short-sighted and ignorant as we are, is it for us to pervade the vast and complicated system of Providence, and decide with

* Warburton's works, 3rd vol. p. 225. London, 1811.

formal precision what is to be infallibly useful or pernicious in the administration of the universe? Our business is to discover truth wherever we may have skill enough to find it, and leave it to God to confirm its utility. "In matters (says Hooker) which concern the actions of God, the most dutiful way on our part, is to search what God hath done; and, with meekness, to admire *that*, rather than to dispute what he, in congruity of reason, ought to do"* ; in other words, what we, in our wisdom, shall prescribe to the wisdom of God.

If there is a circumstance upon earth of value in the eyes of Omnipotence, it is the search after truth. Every fresh instance discovered of his ineffable arrangements cannot fail to add a new measure to his glory. If the praises of men are acceptable to him, to unfold the resplendent truths that kindle those praises must be also acceptable. Yet the presumption of pedantry—the ignorance of learning, will officiously thrust themselves forward, and, in hopes of finding favour with God, trample under their audacious feet whatever can do honour to his name.

I have not the miserable arrogance to suppose ✓

* Hooker, 1st vol. p. 429. Oxford, 1807, quoted by Warburton, 3rd vol. p. 330.

that the truths I have endeavoured to bring to light are truths such as these ; yet the affectation of humility would just be as miserable if I pretended that I did not consider them of some little value. If I was not satisfied in my conscience that they might fairly claim some small portion of attention, they should never have trespassed on moments too precious to be lavished on vanities and trifles. But I trust I shall not be considered singularly over-zealous in the performance of a duty so important as the vindication of truths neither trivial nor common ; and if it was my duty, it was not less my inclination—I might almost say my passion.—Were I at liberty to change my heraldry and choose anew, this should be my motto—“ Whither truth leads, thither I follow.”





AN ACCOUNT
OF THE
EXTIRPATION
OF A
TUMOUR OF THE NECK,
ENGAGING THE PAROTID GLAND,

By RICHARD CARMICHAEL, M. R. I. A.

ONE OF THE SURGEONS OF THE RICHMOND HOSPITAL, HOUSE OF INDUSTRY,
&c. &c,

Read by Dr. Brooke, 1st June, 1818.

THE annexed engraving will afford, more clearly than any verbal description, a correct notion of the appearance and extent of a tumour of the neck and jaws, which I removed on the 14th of December, 1817. It was drawn by my pupil, Mr. Farrel, the day before the operation, who also took the following measurements of its external surface:—Vertically from the external ear, (which it pushed forcibly upwards out of its natural situa-

tion) to the neck on which it descended, it measured five inches—Horizontally, immediately below the ear at its superior part, three inches and a half; and at its inferior part, full five inches; so that it gradually increased in volume towards its lower termination. It was of a firm consistence, but not of that cartilaginous hardness which cancer, in this situation, usually possesses. It evidently adhered to the bones; but I thought it possible that it might be merely attached to the mastoid process, and to the angle of the inferior jaw bone, as it was very moveable on insinuating the fingers under the lowest and most projecting part. In this, however, as will appear in the subsequent account of the operation, my hopes were not realized; for it was found to be fixed to the transverse process of the first cervical vertebra, and to the bones which form the basis of the skull.

The patient, a respectable shopkeeper, residing in Parson's-town, was a man of temperate habits, about forty years of age. The tumour, according to his statement, was first observed about the size of a kidney-bean, lying below the ear, fourteen years previous to the operation. It increased slowly, and in four years had attained the size of an egg; at which time it was removed by an eminent practi-

tioner, who resides in the same town with the patient. The tumour, however, re-appeared shortly after the operation, and encreased with greater rapidity than before.

About five or six years ago, I saw him, in consultation with surgeons Richards, Peile, and Colles; at this time, the tumour had extended considerably on the face; but had not arrived at one half of the dimensions I have stated above. The opinion of the consultation, at this period was, that there were grounds to believe that the parotid gland was engaged in the disease, and that we could not recur to operation with safety, or any prospect of success. Shortly afterwards, more in compliance with the solicitations of my patient than from any sanguine expectations of success, I applied a strong escharotic (the arseniate of iron) to the tumour, which destroyed a very considerable portion of the part that spread on the cheek, and which afterwards healed without difficulty. The tumour, however, notwithstanding the constant application of cold evaporating washes, continued gradually to increase, and was attended with occasional shooting pains.

In November, 1817, finding the tumour increase to an alarming extent, he again came to Dublin for

advice; and as operation, however perilous the attempt, presented the only chance of saving his life, I fairly laid before him the hazard as well as the hopes involved in this bold measure. As a favourable indication, I stated that the result of the trial which had been made with caustic, afforded a strong presumption, that the tumour was not of a cancerous or malignant nature; and, therefore, afforded a very different prospect of success, than if it were otherwise;—and I added, that the knowledge at which the profession had arrived, since the last consultation, with respect to the possibility of tying the carotid artery, in case of necessity, enabled us to obviate the dangers of hæmorrhage during the operation.

Having visited the country, for the purpose of consulting his friends on the propriety of the measure, and of settling his affairs, he returned with a determination to submit to the operation. This resolute temper of mind he maintained to the last, exerting, throughout, such a degree of intrepidity and coolness, as could alone have enabled me to prosecute the extirpation of a mass, such as I have described, situated in the midst of the most important veins, arteries, and nerves in the frame, and requiring my undivided attention for the space of an hour and upwards.

The patient was laid on a table, inclined to his left side, and Messrs. Peile, Colles, and Todd assisted me in the operation. I began, by making an incision the entire length of the tumour, commencing it immediately below the cartilage of the ear, and extending it beyond the inferior part of the tumour, along the internal edge of the sterno-mastoid muscle. The incision was carried considerably below the tumour, for the purpose of exposing the trunk of the common carotid, in order to admit either of compressing it, or of passing a ligature round it, in case such a measure should afterwards become necessary by the occurrence of any unmanageable hæmorrhage. While this object was pursued, two threads were passed round the external jugular, and the vein divided between them, in order to prevent any embarrassment, which *its* hæmorrhage might produce. The artery, as well as the mastoid muscle, were much displaced by the pressure of the tumour, which had pushed them closer to the trachea than their natural situation. However, as soon as it was deemed sufficiently exposed to admit of its circulation being commanded by the pressure of the fingers of an assistant, I proceeded to the other steps of the operation: these were first to dissect back the integuments at either side of the incision, so as to expose the external or superficial part of the tumour. It was then detached from

the meatus auditorius, and parts about the ear ; and also from the mastoid process behind, and from the angle of the jaw before, to which parts it firmly adhered.

I now made use of the handle of the scalpel and my fingers, to separate it from the deep-seated parts lying between the temporal bone, and ascending process of the lower jaw, where it was imbedded to a depth far beyond our expectation. This part of the operation was necessarily tedious, as considerable difficulty was experienced in detaching the tumour from its connexion with the surrounding parts.

A firm band or root, connected with the deepest part of the tumour, having a large artery distinctly beating upon its surface, was found to resist all my efforts to disengage it ; and it became absolutely necessary to have recourse to the knife. But previous to its division, I requested Mr. Todd to be prepared to compress the carotid trunk, in case of the occurrence of hæmorrhage. The band was then divided with a buttoned bistoury close to the tumour, with the view of avoiding the artery ; in this, however, I was disappointed. Instantly an alarming gush of blood, which evidently came from a large vessel, followed the division ; and the danger appeared the more imminent, as the pres-

sure which Mr. Todd applied with all the force he could exert upon the carotid trunk, was actually incapable of repressing the torrent. There was not a moment to be lost. Mr. Colles plunged a dry sponge to the bottom of the wound, and firmly pressed on the bleeding vessel, while I made a horizontal section of the tumour, till I arrived at the cavity occupied by the sponge, with the view of exposing as quickly as possible the mouth of the bleeding vessel. This was accomplished in sufficient time to save the patient's life ; and a large artery, which was probably the trunk of the facial or labial, was tied in two places ; that is, at each side of an orifice, resembling the vent of an organ-pipe made by the knife, not by dividing the artery, but by taking off a slice of its surface. When the ligatures were fixed, the pressure from the carotid was removed, and no farther hæmorrhage occurred.

I now had time to examine that portion of the tumour which remained, and found that it firmly adhered to the bones of the basis of the skull, and to the transverse process of the atlas. It was now proposed by some of the friends who so ably and anxiously assisted me, that we should proceed no farther, but leave this portion as it stood, without incurring the danger of another hæmorrhage ; but this advice, however prudent, I had the courage

to resist, being determined to make an effort to detach the remainder of the tumour, without the use of the knife.

I first proceeded to remove with the fingers that portion which was fixed to the temporal bone, between the mastoid and stiloïd processes. This was accomplished with some force and great pain to the patient, as the trunk of the portio dura of the seventh pair of nerves was separated with the diseased mass, a circumstance which was afterwards found to cause the paralysis of that side of the face. I next removed by the same means another portion, which was fixed to the transverse process of the atlas ; still another small portion remained so firmly fixed to the bones at the basis of the skull, that it was deemed more prudent to pass a ligature around its base, than to make any farther attempts at its extirpation ; and when this was accomplished, a piece of lint was wrapt round the portion included in the ligature, in order to prevent any after communication with the surrounding parts. The wound was now cleared of coagulated blood, and the edges brought together with straps of adhesive plaster, allowing the ligatures of the large artery already mentioned, as well as one or two smaller ones, together with those passed round the external jugular vein, and the portion of the tumour, to hang out of the

wound. Notwithstanding the magnitude of this operation, the loss of blood which he had sustained, and the pain which he had endured with so much fortitude as not even to allow a murmur to escape him, this strong-minded individual walked from the operation table to his bed in an adjoining room, declining every kind of assistance which the pupils present were anxious to afford him.

Immediately after this protracted effort of magnanimity, Mr. Fitzpatrick (for it would be unjust to withhold his name) suffered some alarming symptoms. He became chilly and cold, but at length his heat was sufficiently restored by warm drinks, and jars of hot water placed at his feet: he also took an anodyne draught. In the evening there was a considerable oozing of blood, but a continued pressure for two hours with the hand at last stopped it. He complained of considerable pain and difficulty of swallowing; a second draught was directed.

2nd day. He appeared as well as could in reason be hoped for; pulse 86, excessive thirst; great pain in his throat, attended with considerable difficulty of swallowing. His bowels were freed during the day by means of cathartic pills, and injections.

3rd day. He appeared to be going on well, but did not sleep during the night; pulse 104; the medicine had operated well. Chicken-broth was allowed him during the day; and at night he took a draught containing forty drops of tinct. of opium.

4th day. The draught had not the intended effect. He could not sleep, yet did not complain of pain; pulse 98. His eye and general cast of countenance were good; his bowels were freed with injections, and he took during the day an increased quantity of chicken-broth, and in the evening the anodyne draught was repeated.

5th day. I found him muttering and delirious, but on questions being distinctly asked him, he answered rationally. The nurse reported that he had been raving during the entire night, and anxious to rise from his bed; his pulse were 100 but weak. Conceiving that this delirium was owing to that state of the brain which is induced by loss of blood, and want of rest, I did not hesitate to give him wine and strong broth for his support.

On this day I removed the dressings. The wound at the upper part, about the length of an inch, where the integuments had been thin and adhered

to the tumour, appeared black and sloughing; but adhesion had taken place through the remainder of its extent. The right side of his head and scalp were considerably swollen, and the eye nearly closed.

6th day. He had scarcely any remains of delirium. His manner was, however, quick and unnatural; pulse 90 and firmer. The preceding night had afforded him the only sleep he enjoyed since the operation, and he took a couple of glasses of sherry in his whey during the night. Had an opposite course been pursued, as a recurrence to blood-letting and cathartics, under a suspicion that the delirium was dependant on the inflammation of the wound extending to the brain in its vicinity, I have no doubt that it would have been attended with the worst consequences; and so enfeebled was the condition of this man, and so reduced his powers, that I am persuaded he would have fallen a victim to the slightest depletion.

7th day. He was perfectly calm and collected in his mind; his pulse 90 and firm. He slept well during the preceding night, and did not now complain of any pain in swallowing. The discharge from the wound was more abundant but still of a serous nature.

8th, 9th, 10th, and 11th, days. The ligatures came away, and also the piece of slough or dis-

eased substance which was included in a ligature. The discharge had become purulent ; the swelling of his face and scalp was dispersed, and his strength was daily improving. His recovery was now decided ; but the wound was not healed until the 20th of January, thirty-six days from the time of the operation. There was no hardness or any appearance of a suspicious nature.

The muscles, however, of the side of his face, where the tumour had been, were paralyzed, in consequence, as already remarked, of the division of the trunk of the portio dura of the seventh pair of nerves. This affection, I was happy to observe in the following June, was considerably lessened ; and there is therefore every expectation that, as the inosculating nerves increase in size and strength, the slight deformity which it occasions, will totally disappear. The cicatrix of the wound was reduced to a mere line, and there was not the slightest indication of any diseased action going forward in the part.

The success of this operation proves the possibility of extirpating the parotid gland, if circumstances should point out the propriety of such a measure. If, however, I should be again called upon to perform, in another, the same formidable operation, I would in the first instance, pass a

ligature under the carotid trunk, which might be tightened or not, as occasion should require. This previous step had been my intention in the present instance ; but from which I was dissuaded by some of my judicious and experienced assistants ; however it is apparent that by not adhering more strictly to a well considered opinion, I was very near finding ample cause for repentance.

A CASE
ON THE
USE OF TURPENTINE.

BY

WHITLOCK NICHOLL, M. D. F. L. S.

MEMBER OF THE LONDON COLLEGE OF PHYSICIANS, AND OF THE MEDICAL AND
CHIRURGICAL SOCIETY OF LONDON.

Read by Dr. Brooke, 1st June, 1818.

AUGUST 27, 1817, I visited Miss Cradock, a girl about 12 years old. I found her with a hurried feeble pulse, the tongue black, not furred, but looking as if it had been rubbed over with black earth ; the bowels distended. She had been much purged, at first without the aid of medicine, and afterwards by mercurial and other purgatives. I ordered for her mercurial pill and some saline aperients ; but before these were administered she voided a quantity of black grumous stool which

filled above half of the pan of the night chair. To cut the detail short, it may suffice to say, that although by strict attention to the bowels, stools of a natural appearance were procured, and the tongue became clean, yet still the following symptoms continued during a fortnight :—constant drowsiness, great indisposition to speak, great tremulous debility, an incessant sense of irritation in the nose, particularly in the right nostril, a dark red circumscribed hue on each cheek, pulse generally frequent, skin constantly dry, and intensely hot, as if a heated iron were buried under the muscles ; appetite keen, or rather, I should say, that as often as food was offered, it was caught at and devoured in a hurried manner—a death-like coldness of the hands coming on generally every day with an uncertain increase of the frequency of the pulse—bowels regularly open—stools of a natural appearance—no head-ach; nothing remarkable in the character of the eye ; emaciation: If at any time the least quantity of wine or of any cordial or tonic medicine was given, it instantly lighted up high febrile symptoms. Salines, diaphoretics, purgatives, all were tried to no purpose; the last dose which she had taken of the latter class consisted of a full proportion of aloes, calomel and pulvis Stanni.

September 17, All the symptoms which have

been enumerated have continued unabated. I this day gave her Ol. Terebinth : ʒiſs in Syr. Tolut. ʒvi. This dose was repeated after the lapse of two hours. In two hours after this second dose was taken, I ordered a similar mixture, which had been intended for a third draught, to be thrown into the rectum, and I gave of the Ol. Ricini. ʒſs. by the mouth. These means produced two copious stools, in which there was nothing worthy of notice, the appearance of them being similar to that of the stools of preceding days, yet from this time all her symptoms disappeared ; they vanished as by the force of magic, and the patient rapidly recovered her former health ; and she continues at the present day perfectly well.

Where and what was the disease in this case ? I considered the cause of the symptoms to be seated in the alimentary canal : at one time I suspected tænia to be the cause, but I examined the evacuations which were produced by the turpentine and the oil, and no traces of worm could be seen. What the particular state of the membrane lining the canal was, which so long kept up such marked symptoms, and which so instantaneously disappeared after the exhibition of the turpentine, I cannot pretend to say.

CASE OF
ANGINA PECTORIS.

BY

WHITLOCK NICHOLL, M. D. F. L. S.

MEMBER OF THE LONDON COLLEGE OF PHYSICIANS, AND OF THE MEDICAL AND
CHIRURGICAL SOCIETY OF LONDON.

Read by Dr Brooke, 6th July, 1818.

S. D. esq. about 63 or 65, a corpulent man of regular habits, but of a disposition very anxious and irritable, had laboured under no marked disease, but had been subject to constipation and flatulency for many years. He had also been subject to piles, which frequently bled, but latterly these had disappeared. In the beginning of September, 1817, his feelings were greatly distressed by the loss of his only grand-child; in a few days after this loss he consulted me. He stated that he had for some weeks found a difficulty in ascending a hill, which caused him frequently to stop, not from a sense of suffocation or inability to proceed, but from a painful sensation at the chest, which left him when he stood still. Flatulency, with constant ructus and aci-

dity, were present always. His seizure, as he called it, generally came on at about 8 o'clock in the evening ; sometimes he escaped it, and at other times it came on in the night or before dinner, his hour of dining being five. The seizure consisted of pain at, and under the extremity of, the sternum, not increased by pressure, with a sensation, "as if a retina were expanded over the chest;" (this was constantly his expression,) and with a numbness and coldness, extending to the wrists, particularly in the left arm. He had, he said, found out the nature of his complaint from books, and he was sure that he laboured under angina pectoris, which would be fatal to him. His illness had not alarmed any of the family, nor had the seizures attracted the notice of any one, until the evening preceding the day on which he consulted me ; on which evening, finding the symptoms urgent, he withdrew himself from the tea-table for fear of causing alarm. His appearance was as usual ; he had no cough, no difficulty of breathing or of lying on either side ; no palpitation, no loss of appetite ; he attended strictly to his diet, avoiding all food that was likely to cause acidity. He objected to taking medicine when free from the more urgent symptoms.—I saw him 3 or 4 days afterwards, being summoned to him in the morning ; he was then labouring under his usual symptoms, and complaining of great distress and pain

in the usual seat of uneasiness ; his pulse, notwithstanding his great anxiety, was not in the least irregular or quickened. I gave him an opiate pill, and applied a blister, and he shortly afterwards became tranquil, more, I believe, from the effect on the mind than from the remedies. He was seen by another physician in consultation ; light aromatic bitters and aperients were ordered, and opium in case of pain ; whenever he was thoroughly purged by senna and manna draughts, he usually escaped the evening seizure, and when the seizure came on, an opiate draught quickly relieved it. On the 9th of October, of the same year, he rode five or six miles on horseback, on the 10th went sixteen miles in a carriage, on the 11th rode on horseback six miles, and trotted a good deal without inconvenience ; in the evening of this last day (11th) the seizure came on with extrememental agitation and distress ; he threw up blood and a light thick tenacious froth full of very minute air-bubbles ; I found him at three in the morning of the 12th in great agitation begging for relief ; his pulse was natural, he was rather chilly. I gave him an opiate draught, put him in a warm bed ; he had little or no sleep ; a blister was applied to the chest. He was in an anxious state the whole of the day ; several doses of senna and manna were given, which brought away very sour stools ; he was harrassed constant-

ly by strangury, which succeeded to the application of the blister, he not having been subject to this complaint ; I left him at 9 at night having deceived him with respect to the hour, 8 o'clock being always expected with dread by him, but no symptoms came on. I saw him again on the 14th ; he had been restless the preceding night, having had but little sleep, was nervous and anxious, but in other respects as usual. On the evening of this day (14th) precisely at 8 o'clock, when at the tea-table, he said the fit was coming on, was extremely agitated, complained of coldness and numbness of the hands, muttered some words indistinctly, and having recovered himself in a few seconds, he retired to bed, with the conviction that he had narrowly escaped a paralytic seizure ; he took his opiate draught and passed a tolerable night. The next day he was unusually cheerful at the prospect of visiting Bath, for which place he was to set out the next morning, being very sanguine in his expectation of relief from drinking the waters there. He ate a better dinner than he had done for some time, and seemed to enjoy it. He spent the afternoon with his son-in-law and daughter ; the latter having been much alarmed at witnessing the seizure on the preceding evening was taken out of the room by her husband before 8 o'clock, (the usual time of the seizure.) During their absence the dreaded hour arrived,

the butler only being present with the patient, the latter who had been engaged in picking some flower-seeds, got up from his chair, saying, "it is coming on," walked up and down the room in great agitation two or three times, dropped on his knees, laying his head on a chair, and (his son-in-law coming in at this instant) "feel, said he, how cold and damp my forehead is—why am I tormented thus—give me my opium, my anodyne."—He turned on his back, and died instantly. Permission was not given to open the body.

In the house of the above-mentioned gentleman was a footman of regular habits, but of delicate constitution, aged a little more than thirty years. He had not laboured under any disease for some years. He was seized with coldness, pallor, fainting, and vomiting on the evening of the 16th September, 1817. After having taken some brandy and water, he went to bed, had an emetic given him; after which, he vomited some sour undigested food. He had no particular symptom, excepting general pain across the chest in the course of the attachment of the diaphragm. After having been freely purged by calomel and senna with salts, I found him complaining of considerable hesitation in breathing brought on by using the least motion, attended with strong and frequent action of the pulse; but these symptoms subsided

on his laying himself down in the bed. A deep inspiration increased the uneasiness in the chest, but did not give rise to cough. There was a pallor and flaccidity of the skin generally, with a clammy feel; he complained of pain in the back, chest and shoulders, increased by any exertion of the muscles of these parts, whether in turning the body, in moving the arms, or in enlarging the cavity of the chest. Quiet was enjoined, and James's powder, mixed with a little of the compound powder of Ipecacuanha, was given every four hours. Under this plan the symptoms subsided, so that by the 21st, he had, as he considered, perfectly recovered from the attack. On the night of the 22d, I was summoned to him, and I found him lying in great pain and anxiety: the pain referred to the anterior part of the body, near the attachment of the diaphragm, scarcely increased by pressure; but, if at all so, it was when pressure was made on the left of the scrobiculus cordis. Pulse very forcing, distended, and frequent. Pain considerably increased by inspiration. No other symptom. He was very anxious to be bled: a surgeon present took away as much blood as filled a bason of a moderate size, and there was nothing particular in the appearance of the blood. The patient was directed to take calomel, James's powder and nitre, in moderate doses, every four hours. On the 24th, he was in good spirits,

fancying himself much better ; the pain was less extensive, but it occupied the left side of the Thorax ; the pulse was full and distended, the blood seeming to force its way with violence ; the skin relaxed, not hot, stools and urine natural. He had in the preceding night been attacked with most violent palpitations of the heart, so loud as to be distinctly heard by his attendants in the room, the noise being compared by them and by him to the pouring of a fluid from one vessel into another. The pain was increased by pressure on the intercostal spaces over the heart. The breathing was much more free than when I last saw him. The palpitations still recurring from time to time, I directed a strong liniment which I found in the house to be rubbed in, on the seat of the pain ; this instantly removed all external pain and tenderness, and the pain was then confined to the heart. *Cicuta* and *digitalis* were given him. I ordered for him the next day a seton through the integuments, over the seat of the heart, and a grain of opium every four hours with a *digitalis* draught. He told me afterwards that from the moment of the insertion of the seton he entirely lost the pain in the heart—that the palpitation had scarcely returned, and the medicine procured sleep and quieted him. Strict and entire quiet of body and mind, with abstinence from all nou-

rishing or stimulating diet, were rigidly adhered to.

October 7.—No symptom, but debility.

Nov. 10.—Seton removed.

12th.—Had cold sweats since the removal of the seton, which disappeared after his having recourse to a small dose of salts repeated daily. His pulse maintained when I last saw him, which was in the middle of November, its full, prominent character; and although he called himself well, he was nevertheless unfit, in my opinion, for any situation which called for any degree of exertion. I have just heard (February 8, 1818) that he has been tolerably well ever since I saw him, but that he is subject to returns of palpitation.

CASE
OF
SARCOMA OR POLYPUS
IN THE
COLON,

BY
EDWARD PERCIVAL, M. B. M. R. I. A.

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS, &c. &c.

Read by Dr. Crampton, June 1, 1818.

John Spragg, aged twenty-one months, a full grown and robust child, began to experience obstruction in his bowels about a month before the termination of his disorder. His evacuations during that period became gradually more rare and scanty, until the last eight days, when they were entirely suspended. During this latter time also, he suffered much acute pain in his bowels, with the usual symptoms of fever, and a rapid waste of his flesh and strength. Two days before his death,

(when I first saw him) his countenance portended his approaching fate. His belly was greatly distended, but not very sensible to pressure ; when at rest, he did not complain ; he swallowed liquids freely, and did not vomit food or medicine. Injections were returned instantly without addition or discoloration. Various remedies internally, together with leeches and cold affusion, were tried in vain ; the child died in a slight convulsion.

Eight hours afterwards the abdomen was examined. The intestines were greatly distended with air and the fluids recently taken, part of which flowed from the mouth. The Peritoneum, (except on certain parts of the Colon) shewed no signs of inflammation. At the Pylorus was found a tendinous elastic ring, about one-third of an inch in diameter, contracting the gut ; yet admitting of dilatation by passing the finger forcibly through it. This annulus was probably congenital, as there were no marks of its recent formation.

Some livid patches were found on the Colon, and some extent of inflammatory appearance on its villous coat, about the middle of the intestine. Here the gut adhered on all sides to a firm tumour, about the size of a hazel nut, forming a

complete cul-de-sac. On separating those parts which adhered by recent inflammation, an excrescence was discovered, of glandular texture, deeply seated in the parietes of the intestine. Its external hue was dark or livid; its internal colour bluish grey. At the base of this tumour a small cavity and ulcer appeared, which had nearly eroded the tunics of the gut.

The Rectum was contracted in its capacity, empty and clean.

Compare Morgagni Ep : xxxi. 21. Portal Anat : Med : tome v. p. 243. Monro's Morbid Anatomy of the gullet and stomach, p. 190. Baillie's Morbid Anat. p. 193.

TWO CASES
OF
INFLAMMATION
AND
ENLARGEMENT OF THE PANCREAS.

BY EDWARD PERCIVAL, M. B. M. R. I. A.
BATH.

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS, &c. &c.

Read by Doctor Crampton, June 1, 1818.

FROM common experience, and the evidence of morbid dissection, it may justly be inferred, that disease of the Pancreas is a rare occurrence, yet the difficulty of ascertaining the condition of this organ in the living subject, by any other symptoms than such as are secondarily manifest in the stomach or liver, must, render our judgment, in many cases, uncertain, and our practice doubtless sometimes erroneous. When pain and tumour of the Pancreas are mistaken for inflammation of certain parts of the liver, the remedies of depletion, which are applicable to both, may resolve the

disorder, before the error of diagnosis is discovered. But a more obvious and fatal error may arise from confounding the pain and jaundice caused by the pressure of an inflamed pancreas, upon the ductus communis choledochus with spasm or calculous obstruction of that canal; and it is chiefly with a view to obviate this mistake and its consequences, that I offer the following cases to the notice of the Association.

CASE I.

An elderly gentleman, inclining to corpulency, was frequently seized, in the last autumn, with acute pains in the epigastrium, attended with soreness and tumor of the parts, and followed by jaundice. His medical attendant prescribed cordial draughts and mercurial purgatives, which relieved, but did not remove the urgent symptoms. After some weeks, the patient began to experience an obscure pain in his chest, on making any bodily exertion; but it was unattended with cough or any difficulty or disturbance of the respiration. As this pain or uneasiness appeared to be associated with the distress in the epigastrium, a blistering plaster was applied to the latter part, with much benefit; neither local nor general blood-letting had been resorted to.

On the 16th of Nov. I saw this gentleman, two days after his arrival in Bath. His complexion was dingy and yellow about the eyes; his tongue much furred; his urine scanty and high coloured; his pulse, in the morning, did not exceed 78 strokes in the minute. On viewing the epigastrium, I found it prominent, especially in the central part, between the umbilicus and scrobiculus cordis. The verge of the liver was pretty clearly ascertainable, bearing free pressure, and betraying no sign of organic disease: but detached from this organ, in the gastric region, was an unusually dense mass, tender to the touch, and yielding slowly on pressure. The gentleman complained of chilliness in an evening, and his flesh and strength were much wasted. Eight leeches applied to the epigastrium, bled copiously, and produced some faintness. The tumor and tenderness were considerably reduced; the urine became free and of natural appearance, the pulse fuller and softer, and the patient expressed himself greatly relieved from his oppression. A vesication, on the same parts, kept open for ten days, with the use of saline aperients, an occasional warm bath, and a restricted diet, so far restored the patient, that he assured me, he had not felt himself in such good general health. Still a tumor and hardness were discernible in the epigastrium; until a spontaneous diarrhoea occurring, it shrunk rapidly in its dimensions, and

before the expiration of a fortnight, (Dec. 8th.) entirely disappeared.

It is deserving of remark, that in the progress of this subsidence, the tumor assumed a more distinct form, like the smaller extremity of an egg, and preserved this shape till it could no longer be felt.

Some slight vestiges remained of the obscure pain or uneasiness in the chest, on making any unusual bodily exertion, or sometimes even in walking at a gentle pace; but neither the pulse nor the respiration were, in the *slightest degree*, affected under these circumstances.

Remarks.

In the history and appearances of this case, there was doubtless much obscurity. Guided by negative evidence, I concluded that neither the liver, nor the lungs, nor the stomach, were organically diseased. The form and position of the tumor led me to determine that the pancreas was the disordered viscus; which, in its first inflammation and enlargement, had pressed upon the gall ducts, occasioning acute pain and jaundice. Through protracted congestion, the organ had

been rendered incapable of relieving itself by due secretion. I had therefore recourse to topical blood-letting, and continued vesication, saline purgatives, &c. which gradually effected a resolution of its oppressed functions. Diarrhoea followed and the tumor wholly disappeared.

Had the omentum been the seat of disease, neither the enlargement nor declension of the tumor could have been so considerable, I presume, in so short a space of time. The omentum, also, being more superficial, would have longer remained sensible to pressure ; nor could it well have assumed, under any circumstances, the distinct spherical form already described.

The following case, lately furnished to me by Dr. Haygarth, illustrates both the history and diagnosis above detailed.

CASE II.

J. J. a middle aged gentleman, had jaundice and bilious vomiting, with disordered secretion of urine. The epigastrium was distended, and a hard tumor was distinctly felt, protruding from the middle of that region. Mercurial purgatives, and various cordial and diuretic medicines were

employed. The patient became extremely dejected and feeble, even to delirium. Blood, and at length foetid, pus were discharged by stool. Anasarca followed, and the patient died about three months after the first notices of the disease.

On examining the abdomen, the pancreas greatly enlarged, was found occupying the place of the tumor before felt in the epigastrium. The ductus communis choledochus was imperforate in the parts adjacent to the pancreas, and where its pressure had been greatest. The gall bladder was full, and the cystic duct pervious; the substance of the pancreas was scirrhus, and on being cut into, was found to contain a considerable abscess. The kidneys were sound; but the liver was much diseased.

A case of scirrhus pancreas, which illustrates some points in the foregoing histories, is related by Mr. Todd in the first volume of "the Dublin Hospital Reports," &c. Art. XIV. The reader is also referred to a paper by Dr. Latham, in the 11th vol. of "Transactions of the College of Physicians, Art. V. which contains some very just observations on the diagnosis of abdominal tumors.

ADDITIONAL CASES,

BY

JOHN CRAMPTON, M. D. &c. &c.

THE two following cases of enlarged pancreas are given further to illustrate the luminous view which Dr. Percival has taken of the enlarged and inflamed condition of that viscus. In the first of these, which occurred long since, the nature of the disease was evinced by examination after death ; in the second, having had the advantage of perusing Dr. Percival's paper, I was at once enabled to recognize the disease, and pursue the appropriate treatment.

CASE I.

John Doyle, æt. 35, a labourer on board a lighter, accustomed to hard work, and addicted to drink spirituous liquors, was admitted a clinical patient into Sir Patrick Dunn's Hospital,* on the 28th February, 1813. He had enjoyed perfect good

* The hospital annexed to the school of physic. The clinical patients are attended by the six professors, each of these officiates in rotation for three months.

health until five weeks before his admission ; about that period he complained of incessant cardialgia, with flatulent eructations and constipation. He followed his business notwithstanding, until about seven weeks before he came to the hospital, when he was obliged to give up work in consequence of swelling in the epigastric region, which prevented his stooping ; the enlargement afterwards became diffused over the whole abdomen, with evident fluctuation and anasarca of the legs.

The skin is universally deeply tinged with yellow ; he complains of severe obtuse pain, deep seated in the scrobiculus cordis ; it shifts occasionally over the whole abdomen, respiration unaffected, pulse irregular and intermitting, tongue covered with yellow mucus in the centre, moist and white at the edges ; no appetite, excessive thirst, dejections clay-coloured, urine deep yellow-brown, tinging his linen of a bright hue, and very scanty ; rests badly in consequence of pain ; his skin dry, his face emaciated, and he feels feeble and exhausted.

This was the statement of the case by the clinical clerk, which has been extracted from the hospital books.

The patient died the 12th of March, after a

protracted and ineffectual treatment. He was examined the next day.

Dissection.

The abdomen contained a large quantity of yellow serous fluid; liver was diseased, with small vomicæ, containing purulent matter—membranes of the liver were inflamed, especially the concave surface, pancreas hard and enlarged, particularly its head, which pressed on the gall ducts—gall-bladder full of ink-coloured bile; cystic duct open; ductus communis obliterated and imperious; all the parts about these ducts were confounded and knotted together by adhesive inflammation and exudation of coagulable lymph—no bile in the intestines; the bowels all healthy, except where they came in contact with the concave surface of the liver. The remaining viscera of the abdomen were sound—no diseased appearance in the cavity of the thorax.

The pancreas and under surface of the liver appear to have been first engaged in inflammation; this afterwards extended to the interior of the liver, its ducts, and that of the pancreas, jaundice and dropsy were the result. Early venæsection, with local bleeding and purging, might have given a different termination.

The difficulty of stooping, the circumscribed tumor, and the cardialgia seem worthy of observation as early diagnostics.

CASE II.

Mr. C——, æt. 32, a cabinet-maker, a large strong man, addicted to drink spirits, and intemperate in eating, had been using oxymuriate of mercury inwardly, with sarsaparilla, for pains which were supposed by his attendant to be syphilitic. They were seated in the head and long bones, his right knee and elbow swelled, with ulcers on his right arm and left shoulder.

Having exposed himself to cold after a warm bath, he was seized on the 22d of July with thirst, nausea and slight vomiting, besides flatulent swelling, as he conceived, of his stomach. He drank to sate his thirst, large draughts of buttermilk, whey, barley-water, and other light drinks. On the increase of the distention, he put himself under my care on the 26th of July.

His abdomen was very much distended, with evident fluctuation; his legs were œdematous; besides the general intumescence, there was a circumscribed hard enlargement in the epigastrium, nearly circular, with a defined margin, very

tender on pressure ; his pulse natural, tongue a little white, mouth sore from mercury ; bowels affected with diarrhæa, and some blood was passed by stool, but he was subject to piles ; urine high coloured with a red lateritious sediment. Respiration was not affected, nor was there any jaundice, and the stools were tinged with bile.

This appeared to me to be a case of enlarged pancreas, the diagnostics of which are so clearly described, and the pathology so well explained by Dr. E. Percival in the preceding paper. Dropsy was also present, and inflammation of the serous membranes was probably an attendant. It struck me, that unless a vigorous depletory treatment was resorted to, the case would terminate, like Doyle's, in obliteration of some of the ducts, or in some other destructive result equally fatal :—the following plan and cure was therefore put in practice.

Twelve ounces of blood were taken from the arm, and twelve leeches were applied immediately after to the epigastrium. The blood was highly buffed and cupped. Powders, with jalap and cream of tartar, were prescribed at moderate intervals. On the following day, a considerable detumescence of the epigastrium had occurred ; the defined margin of the tumor was more easily

observed ; the urine was more copious and less loaded.

On the 29th,—both the general and local detractions of blood were repeated to the same extent ; the blood was again buffy and cupped ; but the proportion of serum was more considerable.

On the 2d of August, when I next saw him, the dropsical swelling had disappeared, and the tumor in the epigastrium, though still observable, was much diminished—the urine was clear and abundant :—a blister was directed to the epigastrium, and the powders were continued.

On the 8th of August, when I took my leave, all traces of the enlargement in the abdomen were removed ; he was much recovered in his general health, his sores were healed, and his pains were nearly gone.

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CLINICAL REPORT

ON

DROPSIES.

By JOHN CRAMPTON, M. D.

HONORARY FELLOW OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS,
&c. &c.

Read June 1, 1818.

UNTIL within these few years, that Dr. Blackall's book, on the nature and cure of dropsies,* was published, little has been added to the practical knowledge which has been long taught in the schools on the subject of those diseases. Cases of dropsy, where a treatment similar to what he recommends, was adopted, have been occasionally published in the different journals; but Dr. Blackall seems justly entitled to be considered the first of the moderns who pointed out the practical

* Blackall on Dropsies.

inferences to be deduced from an accurate observation of the urine, and who ventured to improve the practice in dropsy, by a bold and energetic mode of treatment. It would be out of place here, to do more than bear testimony to the merit of that work, which at all events, is calculated to stimulate those who have opportunities of hospital practice, to put the speculations of that distinguished author to the test of experience.

The chronic wards in Steevens' Hospital afford excellent opportunities for an investigation of this nature ; dropsy is a disease of frequent occurrence in Dublin, and the greater number of those, affected with such diseases, resort to Steevens' hospital ; the tradesmen and manufacturers, besides servants, and the labouring poor, not only from the city, but from a considerable distance, with constitutions injured by exposure to inclemency of weather, and broken down by intemperance.

A minute investigation of all the cases of dropsy, admitted within a year, might be an useful illustration to a knowledge of those diseases ; and serve, so far as this limited number might allow us to conclude, how far Dr. Blackall's views are founded or not.

Most practical writers on diseases, publish only the fortunate cases: they select those, perhaps, which may correspond with their theories, or suit their practical views; whereas it is only from the experience of a great number, from an impartial account of all, the fatal as well as the successful cases, that any thing decisive can be collected.

For this reason, it is proposed to give the result of all the dropsical diseases which were admitted into Steevens' hospital within the compass of one year, without any selection, not even excluding those who died a few hours after their admission.

More ample information might certainly have been acquired, by waiting until a greater mass of intelligence had been collected; but it is deemed better to publish this report, that others, who have similar opportunities, may make comparative trials of the same nature.

This report contains a brief account of seventy-four dropsical patients, and is divided into two parts:—The first part gives a history of the fatal cases, and of the appearances after death; the object of this may be supposed to be illustrative of the pathology of dropsy. Fifteen dissections are given, from which an attempt is made to shew what organs, and what textures are involved in

destructive changes ; and it is not difficult to infer, even from this limited number, what are the most predominant changes of structure in the different variety of dropsical diseases. The history of six fatal cases, not examined after death, are next given, to account for the total number of deaths.

The cases and dissections are not given exactly in the order of their admission ; those instances where the cavity of the thorax, and the viscera which it contains, are chiefly involved, are first grouped together ; the same arrangement is observed where the viscera of the abdomen and the parietes of that cavity are engaged ; these follow in succession.

The dissections were all performed by Mr. Cusack, the resident surgeon at Steevens' hospital, and I gladly embrace this opportunity to return him my thanks. He was obliging enough also to draw up a written report of all the dissections, which are given in his words.

The second part of this report gives the history of 53 cases variously treated ; 35 of these, to all appearances, were completely cured. In seven instances considerable relief was afforded ; some of these were altogether, others nearly emptied of dropsical accumulation.

In 8 cases the patients left the hospital nearly as they came in, some of them relieved in a trifling degree; others, whose cases were hopeless, in progress to their ultimate termination, but averse to undergo further medical treatment, and anxious to return to their families.

Three patients left the hospital shortly after their admission, having scarcely submitted to any medical treatment:—some of these were discharged for irregular conduct.

Of the 35 patients cured, 23 were subjected to general venæsection, some of them four or five times, besides local bleeding, and blisters; most of this description took little inward remedies. The account of these patients is placed first among the cases cured, being the most numerous and perhaps not the least important.—12 cases, where the lancet was not used, came next in succession. Short observations are made after each of the cases treated with success, as well as in each instance of failure. The report would not have been encumbered with the entire number, but for the reason already assigned, that it was desirable to avoid the appearance of making any selection.

But little reference is made to any of the wri-

ters on dropsy: as it is not intended to give a complete view of dropsical diseases, a practical illustration is the object of this report. There is no claim to novelty, but an anxious desire to ascertain what is true, to confirm what has been already observed, and to put remedies long in use to the test of rigid experience.

The following table gives a synoptical view of the 74 cases.

Cured.		Dead.		Relieved.		Not relieved.		Left the Hospital.
35		21		7		8		3
B		B		B		B		
23	12	11	10	5	2	4	4	3

CASE I.

Mary Callaghan æt. 22, June 27th, 1817, was admitted with symptoms of very general anasarca; the face, the trunk of the body, the thorax, especially the legs and thighs, were unusually œdematous; the abdomen much distended, and fluctuation evident; pulse small and oppressed, respiration hurried and laborious; urine of a high colour; she suffered excessive

* Those marked B, were subjected to general venæsection.

pain in the scrobiculus cordis. Dropsical symptoms were present only six weeks.

She had been given mercurials inwardly by her husband, in the form of solution ; this was followed by severe pains in her bowels, the catamenia became suppressed, the swellings then appeared ; she attributed her illness to the mercurial medicine.

On her admission to the hospital, venæsection, to the extent of ten ounces, was twice performed at the interval of a few days ; this afforded temporary relief to the pain, anasarcaous swellings left the upper extremities, and there was a considerable diminution in the size of the abdomen. Symptoms, however, of distress in her breathing, return of pain in the scrobiculus cordis, greenish vomiting and hiccup came on ; and she died in agony on the 8th of July.

Dissection, 9th July.

Lower extremities anasarcaous ; only two quarts of fluid in the abdomen ; abdominal viscera sound ; lungs quite healthy but adhering in many points ; above half a pint of serous fluid, with flakes of lymph, in the pericardium, a white spot on the right ventricle, half an inch in diameter, evidently from a deposition of coagulable lymph.

Observations.

This appears to have been a case of dropsy of the pericardium, subsequent to inflammation of its inner membrane. The effusion into the cavity of the abdomen and cellular substance, seems to have been symptomatic and consecutive.

That there was inflammation of the pericardium is evident, when the previous symptoms are considered, the presence also of those flakes of lymph,* are generally considered to be demonstrative of inflammation of the serous membranes.

It is scarcely necessary to state how obscure the symptoms of pericarditis are, should it occur in a subacute or chronic form.† In the present instance, the patient referred her sufferings, which really were in the heart, to the stomach; and there might have been reason to suspect a lœsion of the latter organ, where oxymuriate of mercury had been taken.

It is not improbable, that the train of morbid occurrences were in the following order:—First, irritation in the stomach from the acrid mercurial,

* Bichat Anat. Gen. Art. Syst. Sereux—p. 531.

† Corvisart, p. 24.

amenorrhœa from the same cause, concurring with the influence of cold and mental depression ; next, congestion and inflammation in the membranes of the heart and pericardium, in a person predisposed ; lastly, effusion into the cellular substance, and cavity of the abdomen.

It has occurred to the writer of this report often to observe œdema of the face shewing itself before the appearance of any other dropsical symptom ; and on close investigation, it was frequently found associated with some disorder of the heart, or its membranes. If this observation be correct, œdema of the face might be considered as one of the diagnostics of dropsy of the pericardium, in addition to the other signs which are marked with such accuracy by Corvisart.*

Had general and local detractions of blood been practised at an earlier period, when the local pain and the menstrual suppression pointed out, that a new determination of blood had taken place ; and probably, that inflammatory action had commenced in an organ of the first importance, the result might have been different. It may be well conceived how great the distress must have been, when there was so much fluid in the pericardium.

* Corvisart, p. 48.

as half a pint, collected in so short a period. Patients, undoubtedly, will endure even greater accumulations, if they are formed more gradually ; but even so, the obstacles to the free circulation of the blood may be easily calculated.

This case then may be considered as a hopeless one at the period, in which it was subjected to medical treatment : that it shewed evident marks of a congestive and inflammatory nature, in the first instance, is equally proved by the appearances after death as by the previous symptoms, as well as by the causes which appear to have been instrumental in exciting it.

CASE II.

Edward Anderson, æt. 19. July 4, 1817. Anasarca of the face, head and arms, legs, thighs, and body, has come on in the order of the parts enumerated. Abdomen distended, and contains a fluid ; lips and cheeks appear purple and livid ; cough, and pain of the left side ; pulse small and indistinct, not frequent ; urine scanty and red ; diarrhæa ; has been dropsical for seven months : it came on immediately after a fall from a car.

He was partially relieved by a single venæsection, the cough and pain of his side having been re-

moved ; in other respects the treatment was ineffectual. He died on the 18th.

Dissection, 19th July.

Body anasaruous : not much fluid in the cavity of the abdomen ; liver enlarged, presenting a peculiar marbled appearance ; some effusion of lymph about the spleen. The other abdominal viscera healthy ; lungs sound, slightly adherent : the heart adhered to the pericardium in many points ; the bands of adhesion appeared not to have been of recent formation.

Observations.

This case originated evidently in inflammatory affections, chiefly in the thoracic viscera. The adhesion between the heart and pericardium must have been the result of inflammation. The adhesions of the pleura were likewise demonstrative of an inflammatory state ; but as these latter often occur independent of dropsy, no great stress is to be laid on this appearance, unless in connexion with others. Anasarca of the face may again be noticed as a symptom attending disease in the heart. The causes of dropsy, however, in this instance were not confined to the thoracic cavity. The state of the liver and of the spleen, the effu-

sion of lymph about this latter organ, plainly shew that inflammatory action had been going on in the cavity of the abdomen. The case, however, was not subjected to medical treatment, until these organic changes of structure had advanced too far to admit of cure.

Dropsy frequently follows an injury sustained by a fall, as in this instance—in those cases irremediable changes of structure generally take place, either in the heart, lungs, or liver.

CASE III.

John M'Dermot æt. 32, a labourer—January 26, 1818, about a fortnight before his admission, after exposure to cold, was seized with shivering cough, hoarseness, pain of chest, dyspnæa and oppression ; these symptoms were immediately followed by general anasarca and ascites ; his pulse frequent, urine high coloured and muddy. He was immediately bled to the extent of ten ounces, with a view to relieve his organs of respiration.

On the 29th, the venæsection was repeated; his cough, pectoral distress and hoarseness having still continued. His swellings were now observed to be diminished.

February 2nd, having injudiciously exposed himself to cold frosty air, he experienced an attack of shivering, with acute pain of chest, increased cough and dyspnæa. He was blooded for this on the 2nd, and likewise on the 2rd,

On the 16th, his dropsical swellings were gone, but it was easy to see from the continuance of his dyspnæa, his irregular pulse, from the observance of a strong pulsation in the scrobiculus cordis, that the heart was aneurismal, and that little was to be expected from medical treatment. He died on the 1st of March.

Dissection, 2nd March.

Lungs sound ; heart 3 times its natural size; increase confined to the left ventricle—semilunar aortic valves converted into a polypus-like substance mixed with ossific matter—a similar diseased appearance within the valves, towards the left ventricle covered with excrescences about the size of a garden pea.

Liver much enlarged, but not diseased in structure.

Spleen enlarged to 8 inches in length, and proportionally in all its dimensions, in structure softer than natural. Peritoneal coats of the intestines^s were more vascular than natural.

Observations.

The history of this case plainly points out its inflammatory origin: it shews also that though medical treatment was resorted to when it was too late, that so far as dropsy was concerned, the accumulation of fluid was disposed of; this patient indeed at one time was apparently convalescent, and but for his indiscreet exposure to cold on a frosty day in February, his life might have been considerably prolonged.

It is material to observe that the bleedings which were practised to relieve the state of his pectoral organs, did not interfere with the removal of the dropsical swellings; on the contrary, they appeared to expedite their disappearance.

It is not impossible that an aneurismal state of the heart might have existed to a certain extent, antecedent to the month of January, the period from whence his severe illness is dated, but that

dropsy was not established, until exposure to cold induced an inflammatory state in the heart, and gave a sudden increase to that change of structure in the semilunar valves which occasioned so much embarrassment to the circulation. Chronic, and sub-acute inflammations of the heart, which are known to give rise to those organic derangements of that viscus, frequently recur in a more severe form, and there is reason to believe, that in some instances this disorder of the valves is produced in a very short space of time.

The liver and spleen were not sufficiently changed in structure, of themselves to have given rise to dropsy ; they were in a state of congestion, which would have been easily removed under proper treatment, had the condition of the pectoral organs been such as to allow a prolongation of life. Indeed we may infer from the state of these organs, that detractions of blood, and the use of purgatives were the remedies most likely to remove this state of sanguine congestion in the liver and spleen ; and, as has been already observed, these measures were probably instrumental in carrying off the dropsical effusion.

The vascular state of the peritoneal coats of the intestines was to a certain extent connected

with effusion into the cavity of the abdomen, but as this vascular state, as well as the attendant dropsy, were ultimately perhaps the result of disease in the heart, and at all events as this accumulation of fluid was removed, we shall not attach much importance to those causes of dropsy which appeared in this instance in the cavity of the abdomen.

CASE IV.

Bridget Harper, æt. 30; May, 1817, has been four months dropsical, her legs, thighs, body and face, are anasarcous; her abdomen swelled and with fluctuation; she is unusually pale, and leuco-phlegmatic; disease came on with pains in both shoulders shooting across the clavicles, with cough and dyspnæa, and high coloured muddy urine.

Since the commencement of her illness, has had an accouchment. This event has not in any respect changed the character of her complaints.

No hopes were entertained of relieving this patient: she died on the 10th. Her treatment consisted in the administration of diuretics, and light cordial medicines.

Dissection, May 11th.

Lungs sound; eight ounces of fluid in the pericardium; a white spot the size of a shilling on the surface of the heart; this appeared to be a deposit of coagulable lymph.

About four quarts of dark straw coloured fluid in the cavity of the abdomen.

Liver slightly tuberculated, its surface somewhat rough.

The uterus was six inches in length, and appeared unusually vascular, as if injected with red blood, its inner membrane was covered with bloody mucus.

Anasarca of the cellular substance of the skin had subsided considerably antecedent to death.

Observations.

Anasarca is no uncommon attendant on pregnancy; and it as often disappears after delivery; but in the present instance dropsy appears to have been established independant of the gravid state, from causes affecting both the thoracic and abdominal viscera.

The deposit of coagulable lymph on the surface of the heart,* and the effusion of fluid into the pericardium, after the inflammatory symptoms with which the disease commenced, plainly shew what was the original character of her complaints.

In this instance again, anasarca of the face may be observed, associated with disease of the heart.

The appearance of the liver, although in progress to a tuberculated state, was not sufficient in itself to give rise to dropsy; but the condition of that organ, and the pregnant state must have acted as concurrent cases.

The case then may be considered as a neglected pericarditis, terminating in effusion.

The appearance of the uterus might by some be considered as demonstrative of an inflammatory, or at least of a congestive state, perhaps it had not returned to its ordinary dimensions after pregnancy and parturition.

CASE V.

Cornelius Ryan, æt. 30, a barber, June 30th, 1817, a pale livid emaciated looking man, addicted to intemperance, and suffering from cough and dyspnæa for two years, became suddenly

* Corvisart, p. 42.

anasarcous in his legs, thighs and scrotum; his abdomen also much distended; pulse small not frequent; urine scanty and high coloured. Dropsy appeared only three weeks before his admission into the hospital.

His treatment consisted in a blister to the chest, diuretics and mild aperients. The swelling of the abdomen was reduced, the œdema of the scrotum disappeared, his respiration however was not relieved. He died on the 6th July.

Dissection, July 7th.

Limbs anasarcous, abdominal viscera healthy; liver free from disease, but turgid with blood; upon being washed it presented the natural colour.

Lungs adhered to the pleura, on both sides; they were heavier than in the natural state, and studded throughout with numerous small tubercles, some of them suppurating. There was more than the natural quantity of serous fluid in the pericardium. The vessels of the heart were much loaded with blood.

Observations.

This patient died rather from a considerable

change in the structure of the lungs having taken place, so as to unfit them for the office of respiration, than of dropsy ; although the effusion into the pericardium might have been instrumental in hurrying the fatal event.

There can be very little doubt but that an inflammatory state of the membranes of the lungs, as well as of their substance, was in existence for a considerable time, as is proved by the adhesions and the increased density of that viscus ; tubercles probably existed for a considerable time, but had not some additional exciting causes been applied, as cold and intemperance, the case probably would have terminated in pthisis rather than in dropsy.

The liver was in a state of sanguine venous congestion ; this might have depended partly on the difficult transmisson of the blood through the lungs, and partly on his intemperate habits. It is a question whether general venæsection with smart purging might not have removed the sanguine plethora of the liver, and given a different result ; but the patient from his enfeebled and emaciated state, appeared an unfit subject for such practice. It may be observed that the removal of the dropsical fluid from the cavity of the abdomen under the influence of diuretics, did not afford any prospect of recovery.

Dropsy in this instance appears to have been induced chiefly by inflammatory action in the lungs, and in the membranes of the pericardium.

CASE VI.

Lucy Swift, æt. 28—July 25, 1817, has been generally anasarcous for eight months before her admission ; ascites is also present ; it came on a month later. The first dropsical symptom was œdema of the face, accompanied with distressed breathing ; her looks are leuco-phlegmatic, with an occasional purple tinge on the cheek. Pulse 80, hard and cordy ; urine scanty and red. Catamenia were suppressed shortly before her breathing became affected ; she ascribes her disease to lying in a damp cold cellar.

She was blooded twice before her admission into the hospital.

On the 28th, she was blooded to ten ounces chiefly at her own request ; her face that day was flushed with a circumscribed spot ; her pulse cordy and irregular. On the 1st August, her pulse continued hard ; her cough incessant ; a strong pulsation was evident in the carotid ; the only relief she experienced was from bleeding : it was again practised on this day ; her cough was relieved,

the swellings were diminished, but her dyspnæa and difficulty of lying down having daily increased, she died on the 18th of August.

Dissection, 19th August.

Abdomen contained a considerable quantity of fluid ; small intestines had their coats thicker than natural ; mesenteric glands enlarged ; liver enlarged, gorged with blood, and appearing on its surface to undergo organic changes.

On raising the sternum no lungs could be discovered, as they were hid by the heart and its membranes ; pericardium contained a pint of fluid. Heart itself three times its natural size. The wall of the right ventricle was softer and much thinner than natural ; increase of thickness was in the left ventricle ; a fluid seemed effused beneath the membrane covering the heart ; no disease of the valves, nor could any alteration in the structure of the lungs be discovered. The veins of the thorax were much distended.

Observations.

Cough and dyspnæa were the earliest symptoms, attended with anasarca ; diseased action, therefore, probably took place first in the thoracic vis-

cera. The train of morbid symptoms which occurred in the abdominal viscera, must have been of a later date.

Cold and damp concurring with suppression of the menstrual discharge, were causes fully sufficient to induce an inflammatory disease in the pectoral organs. Why the disease fell on the heart, and its membranes in preference to the lungs, must have depended on the state of predisposition in the former. That the disease, however, was inflammatory in the first instance, appears clearly from the train of symptoms, as well as from the causes which induced it. The case was too far advanced to admit of more than temporary alleviation from medical treatment ; the relief she experienced from blood-letting before her admission, was the reason for its repetition ; anasarca of the face, which was the first dropsical symptom in her, may be again noticed as an attendant on disease of the heart.

The chief cause of death in this patient appears to have been the increasing volume of the heart and pericardium. They encroached so much on the lungs, as not to leave a sufficiency of this important viscus, for the purposes of respiration.

The ascites might have been connected to a certain extent with the plethoric state of the liver,

and the indurated condition of the mesenteric glands, as well as with the diseased appearance of the membranes investing the intestines ; the peritoneal coatings of which were in a state of chronic inflammation, indurated and thickened by a layer of coagulable lymph. Effusion in both cavities evidently was the result of this preceding inflammatory action.

Had this distressing case been met by a vigorous depleting practice on the occurrence of the menstrual suppression, the press of blood on the heart, and consequent enlargement of that viscus, might have been prevented ; the effusion into the pericardium might also have been anticipated. The same practice might also have prevented the vascular plethora of the liver, which succeeded the catamenial suppression ; possibly in that event, the inflamed state of the peritoneal membranes of the intestines, and their consequent change of structure might have been superseded by a timely active practice.

The enlargement of the mesenteric glands might in part be attributed to the same general causes, which first gave rise to an inflammatory state of different textures in the cavities of the thorax and abdomen, and ultimately to those serous effusions

which invariably succeed such organic changes in structure.

CASE VII.

Mary Dignam, æt. 40. May 9, 1817. A sallow tall woman much emaciated ; above twelve months dropsical ; abdomen tense, painful on pressure, and a hard substance can be felt underneath the fluctuating fluid on the right side ; anasarca general urine scanty, red and stains her linen ; pulse small, not much hurried ; respiration natural.

This was considered a case of true schirrus liver, conium and other deobstruents were given ; efforts were made also to promote the secretion of urine. This treatment, with other palliative means, proved ineffectual : she died on the 18th of June, in the last stage of emaciation. The ascites were somewhat diminished before her death.

Dissection, 19th June.

Abdomen contained above two gallons of straw coloured fluid.

Liver enormously large, consisting of a con-

geries of tubera* circumscripta ; scarcely any portion of this viscus sound ; neck of the gall-bladder surrounded with small tubera.

Stomach healthy, but its lesser arch covered with tubera.

Lungs tuberculated throughout and adhering to the pleura costalis on the right side. Heart sound, but having a fluid effused beneath its outer membrane and a small hydatid on its surface.

Observations.

This may be considered a sample of the very worst and most incurable variety of dropsy ; that kind in which remedial treatment makes the least impression, and where our methods of cure have hitherto proved ineffectual.

The general schirrous or tuberculated diathesis, in this case, is worthy of remark ; the lungs, the liver, the gall-bladder, the stomach were all beset with tubercles. It was of this disease, which gradually encroached on the powers of life, that the patient died ; the dropical accumulation was considerably diminished before death.

* Farre Morbid ; Anat. of liver.

Effusion in this instance, was symptomatic and dependant on the schirrous state of the liver and lungs, and on the difficulty which the blood encountered in its circulation through these organs.

It is desirable to establish a diagnosis between this assemblage of symptoms, and the other varieties of dropsy. The scanty urine with high red sediment, which tinges linen, is seldom wanting in cases of schirrous liver, differing in colour from that tinged with bile, and in intensity from the usual deposits in the other forms of dropsy.

If there is not very considerable distention, the liver can usually be felt, though not always so, as sometimes it is shrunk * in size. The pallid, dusky emaciated appearance, with shiverings and profuse sweats, are for the most part demonstrative of this form of disease. In this patient there were traces of strong inflammatory action in the thoracic viscera, which at all events, must have assisted the dropsical effusion and hastened the fatal event.

CASE VIII.

Edward Gibbons, æt 53.—Feb. 20, 1818. Considerable anasarca of the legs and thighs, enlargement and fluctuation of the abdomen, cough,

* Vid. Case 10, dissection.

stitches in the breast, pain of back, belly and loins, scanty red urine, pulse small and frequent.

Dropsy had subsisted above 12 months ; cough and stitches came on within the last month.

His cough and pectoral symptoms were soon relieved ; but he sunk under the complication of his other symptoms, and died the 5th of March.

Dissection, March 6th.

No morbid appearance in the thorax ; abdomen contained a large quantity of fluid ; liver diseased, covered with numerous tubercula circumscripta, most evident on the left lobe ; stomach adhered to the left lobe ; this gave rise to a suspicion that an abscess in the liver opened into the stomach ; on minute examination, a large cancerous ulcer was discovered within the stomach ; its edges having adhered to the liver, prevented the contents of the stomach being effused into the cavity of the abdomen.

The other viscera did not appear altered in structure.

Observations.

Although this patient complained of symptoms

affecting his chest during life, yet, on dissection, no diseased appearance was observed in the cavity of the thorax.

The change of structure which led to dropsy, and which, independent of this symptomatic occurrence, hastened his death, was a schirrous or tuberculated condition of the liver and stomach. The schirrosity of the stomach had proceeded to cancerous ulceration, and it is well known how soon this form of disease proves fatal. Pain of the back, belly and loins, with the high red coloured urine, which tinges linen, a small weak contracted pulse, often characterize a truly schirrous liver. They should be distinguished if practicable from those pains which have their seat in the peritoneal covering of the liver, spleen and parietes of the abdomen ; as the latter depend on chronic inflammation of these membranes, and as a very different mode of treatment is required in these distinct forms of disease, although dropsical effusion is equally the consequence in both instances.

CASE IX.

Laurence Mulhall, æt. 45. Oct. 10, 1817.—Abdomen very large, tense and containing a fluid; legs œdematous above 10 months; cough

and pain of sternum, with frequent pulse ; urine red and scanty ; was injured in his chest by falling, and being bruised in a mill ; to this accident, in which he was much exposed to wet and cold, he attributed his illness.

He was directed venæsection to ten ounces, on his admission, and a repetition of the same measure on the 13th, as he still complained of the severity of the pain in his chest.

The brachial artery was punctured in the operation of bleeding, and an aneurism became formed. On the 24th, the whole arm was enormously swelled and blackish ; his dropsical symptoms had nearly disappeared.

He was removed to a surgical ward, where he died on the 20th of November.

Dissection, 21st November.

Thoracic viscera were healthy. Abdomen contained about 4 quarts of fluid of a pale straw colour, mixed with flakes of lymph ; the liver, spleen and kidneys were healthy, but the stomach was one schirrous mass, except a small portion of the cardiac orifice. Omentum could not be discovered, except a small portion which partook of the disease of the stomach.

The small intestines were much thicker in their coats than natural, and covered externally with small white elevated spots.

The puncture in the artery was closed up, and the aneurismal pulsation had ceased 5 days before his death.

Observations.

Before this patient met with the accident which accelerated the dropsy, and hastened his death, it is probable, the schirrous state of the stomach and omentum were in existence. In themselves they would have ended in dropsy, had he been able to endure the change of structure in the stomach for any length of time.

It is curious to observe, that though this man complained invariably of his chest, on examination, the thoracic viscera were perfectly sound; the feeling of pain in the stomach was in fact referred to the sternum.

The injury he sustained by the fall, and by exposure to cold, appears to have induced a chronic inflammatory state in the membranes of the small intestines, which ended in the effusion of a fluid containing flakes of lymph, which are invariably considered the product of inflammation; the small

white elevated spots were depositions of lymph which adhered to the peritoneal coat.

So far as dropsy was concerned, this man was relieved from the greater part of the accumulated fluid ; he died of mortification of his arm, but if he had even surmounted this supervening disease, he must have fallen ultimately a victim to the schirrous and cancerous state of the stomach and omentum.

It would appear, therefore, that dropsy occurred as the result of inflammatory action; that it nearly disappeared under an antiphlogistic and debilitating plan of treatment : and had there not existed permanent changes of structure in organs of the first degree of vitality, this man might have been cured. If a medical treatment, similar to that which was adopted, had been practised immediately after the accident, his chance of recovery would have been improved, at all events his life probably might have been prolonged.

The puncture of the artery was an unfortunate occurrence. The closing of the wounded vessel, or a spontaneous cure of aneurism, is singular, but it is not unprecedented.

CASE X.

William Tuite, æt. 24, a newsman, November 10, 1817. A relapse of general dropsy, both anasarca and ascites to a considerable extent ; breathing much distressed, pulse hurried, urine scanty and red ; no cough or local pain ; he was cured of dropsy in September,* but returning to his intemperate habits, and being constantly exposed to cold and wet, the disease recurred.

He died on the 19th of December, having suffered severe pain in the umbilical region, and excessive distention for some days antecedent to his death. He would not submit to the operation of the paracentesis.

Dissection, 20th December.

Abdomen was enormously distended with fluid. On opening it, a portion of the omentum was found adhering, by recent exudations to the umbilicus.

Liver diminished in size, but tuberculated

* Vide case xxxiv.

throughout. The peritoneal membranes of it were coated with lymph, as well as those of the parietes of the abdomen.

Stomach healthy, intestines distended with air coats of the small intestines, were thicker than natural with effusion between their laminae. Spleen somewhat enlarged; kidneys healthy.

Thoracic viscera in a sound state.

Observations.

Tuite's case is one of the most interesting in the collection, as he was twice subjected to medical treatment within a short space of time. In the first instance, his attack of dropsy, as will be seen in the sequel, was met with repeated venæ-section, blisters and other antiphlogistic remedies. The result was, that he was completely cured.

In the second instance, although his disease did not appear more formidable, the result was unfavourable. The same active plan of treatment was not adopted. Too much reliance was placed on cathartics and diuretics; and though there were less decisive marks of inflammation, so far as could be collected from the symptoms, yet the appear-

ances after death shew, that there were not only old, but recent signs of inflammation.

Dropsy in this instance, might have occurred from two causes ; a tuberculated liver, and inflamed peritoneal membranes. The tuberculated liver must have been of long standing, probably in existence antecedent to the first dropsical attack. The general hydropic state does not appear to have been established, until the other causes concurred, until the serous membranes of the abdomen were affected with inflammation ; and when this inflammatory state was removed by the appropriate treatment, the serous effusion disappeared.

A man, however, of his intemperate habits, constantly exposed to the inclemency of the seasons, and exerting his organs of respiration, could hardly expect to escape a return of his disease ; in fact he was already predisposed, and again subjected to the influence of the same exciting causes. The chronic inflammatory disease, which had been subdued by the treatment, returned with its attendant dropsical effusion. Matters being thus circumstanced, acute inflammation of the peritoneum supervened, in the umbilical region, a few days before his death, when the disease was too far advan-

ced, and his strength too much exhausted, to submit to the measures suited to an inflammatory attack. The examination after death, clearly shewed recent inflammation in the peritoneum.

He refused to submit to the paracentesis, which was proposed to relieve the excessive and painful distended condition of the abdomen, having a firm reliance, that the same forms of remedies which he took before, would again afford him the desired relief.

The tuberculated liver, undoubtedly in itself, was sufficient ultimately to undermine his health, but his lungs were good ; and with cautious treatment and temperate habits, this man's life might have been prolonged for a considerable time.

CASE XI.

Thomas Whelan, æt. 60. June 9, 1817, had been anasarcaous in the legs, and complained of cough upwards of a month ; his abdomen swelled hard and tense within a fortnight before his admission ; his pulse small, somewhat hurried ; urine scanty, and red ; disease attributed to exposure to cold.

Venæsection was practised twice in this case without making any impression on his cough,

which was unusually refractory. Blisters, blue pill, and cream of tartar were employed without any good effect ; his swellings were first diminished, but there was a sudden increase on the 20th, and he died on the 27th June.

Dissection, June 28th.

Abdomen contained about a gallon of transparent, deep, straw-coloured fluid.

Peritoneum inflamed, its surface covering the intestines coated with a layer of lymph, especially in the epigastrium and on the surface of the liver. The liver was studded with small tubercles. The spleen enlarged to twice its natural size, and having on its surface small white tubercular spots.

Coats of the intestines were thicker than natural, from effusion of lymph between their luminæ.

Lungs sound, free from adhesions ; aortic valves ossified.

An omental hernia on the right side. The omentum was adherent to the sac.

Observations.

In this case a complication of causes conspired

to give rise to a general dropsical state. Tuberculated liver, disease in the aortic valves, enlargement of the spleen, small tubercles on its surface, all these changes in structure must have subsisted for a considerable time antecedent to the effusion into the cavity of the abdomen and cellular substance ; and yet they do not seem to have completed the hydropic disease, until a general inflammatory affection of the peritoneum took place. Cold was the exciting cause ; it appeared immediately to induce that state of the exhalants on the serous membranes of the abdomen which favours effusion and dropsy. The layers of lymph on the peritoneum and surface of the liver, the change of structure in the coats of the intestines were unequivocal proofs of inflammation.

Without doubt, the tuberculated disease concurring with the condition of the heart, would in itself at no distant period give rise to dropsy, but this event was accelerated by the state of the peritoneal membranes.

But little hopes of success could be entertained in a case arising from a complication of such causes, and at such a period of life, and where organic changes of such importance had occurred.

CASE XII.

James Lawler, æt. 15. June 16, 1817. General anasarca, and considerable ascites of three months date; cough with mucous expectoration for four years; breathing distressed; lips livid, face pale, with a circumscribed purple spot on each cheek; pulse frequent, small, and irregular; urine scanty and high coloured; pains are felt occasionally in the chest.

His treatment consisted in the use of mild aperients with diuretics, calomel and blisters; anasarcaous swellings and enlargement of the abdomen were considerably reduced before his death, which took place on the 9th of July.

Dissection, 10th July.

Lower extremities anasarcaous; three pints of serous fluid, with flakes of lymph diffused through it, in the cavity of the abdomen; marks of inflammation were also observed in many parts of the cavity on the membranes, particularly on the surface of the spleen, and on the under surface of the liver.

Kidnies much enlarged and soft ; lungs sound ; apex of the heart connected to the pericardium by a membranous band ; many spots on the surface of the heart, which resembled petechiæ.

Observations.

It may appear extraordinary when cough had subsisted for four years, with symptoms almost denoting a hectic state, that the lungs should be found unaltered in structure.

The distention, however, of the abdomen and the condition of the heart, were quite sufficient to explain the dyspnæa and cough ; had the bronchial surfaces been minutely examined, other causes perhaps might have been discovered to account for the long subsistence of a catarrhal state.

A chronic inflammatory affection of the heart and its membranes had subsisted for a considerable time, as evinced by the adhesion and by the spots. Effusion was perhaps prevented from taking place into the pericardium, by the vicarious discharge from the mucous membranes of the lungs.

It was not then until a superadded inflammatory disease occurred in the membranes of the abdo-

domen, that the dropsical disease became established.

There are abundant proofs of the existence of inflammation both in the cavities of the thorax and abdomen, antecedent to the appearance of dropsy. It is evident there was but little to expect as to the removal of the disease, at the period when he was subjected to medical treatment, and where such material changes of structure had taken place in viscera of so much importance.

CASE XIII.

Alexander Mahood æt. 45, a discharged soldier, August 11th, 1817. Abdomen very large, tense, and evidently containing a fluid; no anasarca; cough; no dyspnæa; a sense, however, of oppression. Pulse frequent and full; urine scanty and red.

Disease has been present fourteen weeks; he attributes it to cold and fatigue in military duty; has drunk spirits intemperately.

Venæsection was twice used, and blisters applied, without affording any relief to his cough; diuretics, and alterative mercurials did not increase the secretion of urine, or make any im-

pression on his swellings. He died on the 8th of September.

Dissection 9th September.

The liver was tuberculated and much enlarged ; its peritoneal covering thickened and exhibiting marks of inflammation.—The Peritoneum lining the parietes of the abdomen was likewise inflamed ; a considerable quantity of a serous fluid, with flakes of lymph, was found in the cavity of the abdomen.

The thoracic viscera were in a healthy state.

Observations.

Dropsy, in this instance, as in others of those already related, depended partly on the tuberculated liver, and partly on the inflamed serous membranes in the cavity of the abdomen.

The cough and tuberculated liver were in existence long before the hydropic effusions had taken place. Spirituous potation, concurring with a certain predisposition, is one of the most frequent exciting causes of the true schirrous liver, of which this is an instance—a disease, there is

reason to believe, which is never radically cured : even the dropsy, which is symptomatic of this, almost invariably returns after an apparently successful medical treatment. Dry cough and high red urine, are generally characteristic of a tuberculated liver, and attendant dropsy. The inflammation, however, of the membranes of the peritoneum, attributed by the patient to cold, was the circumstance which hastened and completed the dropsical effusion. At the time he was subjected to medical treatment, no plan probably would have succeeded ; it is doubtful whether the powers of medicine could avail any thing, had they been applied when the swelling first appeared, considering the condition of his liver, in addition to the other occasional causes of dropsy to which he was exposed.

CASE XIV.

John Shawe, æt. 60, November 14th, 1817— a very intemperate man, who procured bodies for dissection, had repeated returns of ascites within the last two years ; they were generally removed by purgatives, by jalap in particular, according to his account.

His first dropsical attack came on with cough

and hoarseness ; his last illness was present six months ; it was preceded by a paralytic attack, during which he lost his speech, from this state he was restored by arteriotomy ; his abdomen is now very large, and general anasarca prevails ; breathing oppressed ; pulse moderate ; bowels costive ; urine red. A syphilitic eruption is likewise observable all over his body.

A single venæsection was practised with a view to relieve his breathing ; purgatives and mercurials were directed. He died, however, on the 21st November, in an attack of apoplexy.

Dissection, November 22nd.

Abdomen contained a considerable quantity of fluid ; liver hard, tuberculated, but very much shrunk in dimensions.

Peritoneal covering of the liver coated with lymph.

Vessels on the arachnoid and pia mater were turgid, and a slight effusion of serous fluid had taken place in the ventricles of the brain.

The thoracic viscera were healthy.

Observations.

So long as the dropsy in this case was merely symptomatic of disease in the liver, not very far advanced, it admitted of partial and temporary relief under the administration of cathartics and diuretics; and had this man's intemperate habits been corrected at an early period of his disease, the result might have been different. It is to be presumed, as his illness came on with cough and hoarseness, that there was at least a temporary congestion in the pulmonary organs, as well as in the membranes of the abdomen. But the constant excitement given to the digestive organs, and to the brain by drinking ardent spirit, concurring with exposure to cold, induced a kind of general inflammatory diathesis; this terminated by effusion in the brain from the exhalants giving rise to a sub-apoplectic state; and in the abdomen ascites was the result.

This case then may be considered, like many of those which precede it, as originating in an inflammatory state. This appears clearly from the condition of the peritoneum, and the effusion of lymph on the surface of the liver.

The connection between apoplexy and a dis-

eased condition of the liver is also well illustrated in this instance.

The syphilitic disease must be considered another difficulty in attempting to remove this complicated morbid state.

CASE XV.

John Murtagh, æt. 29, a butcher, April 3, 1818; sallow and emaciated ; much addicted to drinking ardent spirit ; enormous œdematous swellings of the lower extremities for 12 months ; ascitès had supervened within the last three weeks ; cough and soreness, with flying pains in his chest and abdomen ; pulse frequent, small and hard ; urine scanty and high coloured ; attributed his illness to cold.

Venæsection was directed ; it was not practised, as a profuse nasal hæmorrhage came on after the visit ; he was slightly relieved by the paracentesis, which was performed on the 9th ; but he died on the 16th of April.

Dissection, 17th April.

Abdomen was full of a yellowish serous fluid.—Liver tuberculated throughout ; some of the mesenteric glands were enlarged and indurated. Pe-

ritoneum lining the parietes of the abdomen thickened and very vascular, about the iliac region especially ; reflections of that membrane over the stomach and intestines much thickened, as well as their muscular coats, seemingly by the intermediate deposition of lymph as well as a serous fluid.

Observations.

This case presents another instance, where traces of inflammation are perceivable to a considerable extent in the peritoneal membranes. They were thickened and more vascular than is usual ; the appearance of the intestines themselves is worthy of attention. They were not only thickened by an adventitious membrane, the product of a deposition of lymph between their coats, but there was even an effusion of serum, or a true œdema of the cellular substance connecting their laminae. This appearance has already been observed in some of the preceding cases, and is certainly the result of chronic inflammation.

It is unnecessary to dwell upon the tuberculated condition of the liver and mesenteric glands : these are admitted amongst the occasional causes of dropsy.

It may be perceived that cough and flying pains

in the thorax do not uniformly denote change of structure in the thoracic viscera ; the liver, as is well known to most practical physicians, is often the source of these sensations and symptoms.

It is probable in this instance, as in the other similar cases, that the tuberculated liver was in existence long before the appearance of the general anasarca and ascites ; and it was not until the serous membranes of the abdomen became inflamed, that the dropsical disease was completed.

The connection between an obstructed condition of the liver, and the state of the circulation in the head, is well illustrated by the occurrence of nasal hæmorrhage in this patient.

The dissection shews how little medical treatment could avail in a case where there was so considerable a change of structure in the liver and serous membranes of the abdomen.

The diseased appearances and changes of structure which take place in the different variety of dropsical diseases, having been illustrated by the preceding fatal cases and dissections, according to the plan proposed, it is necessary to join a short account of those patients who died, but were not examined after death : they are only six in

number, but they will serve to complete the histories of all the fatal cases which occurred within the year.

CASE XVI.

Patrick Fitzgerald, æt. 50, May 19, 1817, was admitted in the last stage of emaciation, with very general anasarca and ascites; severe cough; laborious respiration; irregular and intermitting pulse; palpitation and faintness. He had long complained of cough and dyspnæa, but the dropsy was only of 9 weeks date. It was obvious that the heart was the organ in fault, and, as he attributed his dropsy to cold, it is probable that the chronic disease of his heart was augmented by an increase of inflammatory action in that viscus and the pericardium, that effusion was the result; and in this way the sudden developement of dropsy may be accounted for.

Efforts were made to relieve his breathing by blisters, and by diuretics with cordials; but he died on the 12th of June.

CASE XVII.

George Symes, æt. 32, October 10, 1817. Both

anasarca and ascites to a considerable degree, with cough and oppression of breathing of four months duration, attributed to exposure to cold ; pulse frequent; urine clear and in sufficient quantity.

Ten ounces of blood were taken, and a blister applied to the chest.

His cough and dyspnæa being still urgent, the venæsection was repeated on the 17th.

Mercurials also in combination with diuretics, were prescribed.

On the 20th his mouth was sore, but his dropsy was removed. A favourable issue of his complaints was naturally expected ; unfortunately the soreness of his mouth, although he had taken blue pill only 10 days, had increased so much on the 27th, that inflammation of the whole face took place ; the eyes were closed ; mortification of the teguments of the face followed ; and he died on the 6th of November.

CASE XVIII.

Anne Rorke, æt. 62, a cook, January 26, 1818; a large woman, who had been dismissed cured in the month of November, was re-admitted, generally anasarcaous, and with considerable ascites,

dyspnæa, severe cough, small oppressed pulse, high coloured scanty urine.

The same aperients and diuretics which had succeeded before, were directed, but without effect : on the 29th, her breathing was very laborious ; her countenance livid. Ten ounces of blood were ordered to be taken—it was not practised ; effusion shortly after this appeared to have taken place into the cellular substance of the lungs ; she died 13th February.

CASE XIX.

John Rogers, æt. 60, December 15, 1817, apparently moribund, pale, emaciated, with extreme dyspnæa ; countenance livid, pulse scarcely to be felt.

Ascites and anasarca present to a considerable extent, of only seven weeks date ; swellings came on, after exposure to cold and wet whilst at work ; wine and cordials were administered ; but he died the following day.

The inflammatory nature of this case is obvious from the causes, from the symptoms, and from the manner in which it came on. The result of the

total neglect of timely medical aid, may be also noticed.

CASE XX.

Ann Pratt, æt. 50, January 29, 1818—very general anasarca, and ascites, cough, dyspnæa, lividity of countenance ; pulse strong and full, urine scanty and high coloured—disease ascribed to cold—it was only of a fortnight's duration. Venæsection was directed, with squill, digitalis and calomel ; she would not allow herself to be blooded ; a blister was applied.

On the 1st of February, venæsection was again proposed—she would not consent to it ; she died suffocated in the evening.

The inflammatory nature of this attack was evident—she appeared to die more from a neglected pneumonic disease, than of dropsy.

CASE XXI.

Laurence Kennedy, æt. 29, a schoolmaster, Nov. 21, 1817—a tall, pale, slender man, accustomed to drink spirits ; has had ascites to a great extent for 10 months : this came on after an ague ; his legs have been anasarcous for 2 months, and

within these few weeks, cough and pain of chest have supervened ; pulse frequent, tongue loaded, and olive coloured ; urine scanty and red.

The cough and pain of chest were removed on taking ten ounces of blood ; severe pain, which afterwards occurred in both hypochondria, were somewhat alleviated by cupping ; in other respects, the medical treatment was ineffectual. He died on the 8th of December.

The liver and spleen were probably deranged in their functions, after the ague ; to this, organic changes in the structure of these viscera succeeded ; next, ensued inflammatory attacks in the thoracic viscera, and in the serous membranes of the abdomen, with attendant dropsical effusion. Throughout the whole career of this case, more or less of inflammation was always present ; but the changes of structure were too serious, and too considerable to be influenced by remedial treatment, at the period he came into the hospital.

FROM the detail of the preceding cases, it may be fairly inferred, that in many dropsical diseases, inflammation of some important organ, or of some texture, either is present, as the cause of the disease, or supervenes in the course of its pro-

gress, and may be considered as a material aggravation ; it presents, therefore, additional obstacles to the practitioner, in attempting a radical cure. It is by no means meant to inculcate the idea, that inflammation is invariably the cause of dropsy ; that disease may be present, without an inflamed state of any organ or texture, as may be easily proved by anatomical research. In many instances, in incipient dropsies, sanguine congestion in the lungs, liver, spleen, and other organs is present, especially in the venous system of these viscera ; and this congestive state, to adopt the language of Dr. Armstrong,* often leads to effusion. In this state, purgatives with abstemious diet, will frequently relieve the patient, more particularly, if the congestion is in the viscera of the abdomen. If the congestion is in the lungs, venæsection may be advisable, although no inflammation may be present ; for it is material to relieve that important organ, and to prevent the habit of a serous secretion into the bronchia, by which means, humoral asthma may be established, and dropsy be the result. But if this congestive state is allowed to subsist, should medical treatment be neglected, inflammation will supervene from mere distention of the vessels ; effusions of serum, and lymph will follow ; adhesions and false membranes

* Armstrong on Fevers.

will be formed on the surface of the serous coats, in the different cavities, and thus additional difficulties are thrown in the way of the practitioner. In the first instance, he has only a disease of *function* to correct, in the second, a disease of *structure* to contend with.

It is very desirable to establish accurate diagnostics on this subject ; to suit our plan of cure to the congestive or inflammatory state, as either of these may lead to dropsy ; or merely to regulate the serous secretions, upon the disturbance of which some slight effusion may have taken place.

The following histories of dropsical diseases are offered with a view to illustrate these points ; but more especially to endeavour to throw some light on the line of practice which should be adopted in each variety of these diseases. It will be easy, after a perusal of these histories, to see if facts collected to that extent, afford any just data for the treatment of a class of diseases, so considerable a proportion of which terminate fatally under the ordinary routine of practice.

CLINICAL REPORT

ON

DROPSIES.

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PART II.  
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CASES SUCCESSFULLY TREATED.

CASE XXII.

JOHN BISHOP, æt. 24. June 6, 1817.—a stout muscular man, came in affected with anasarca of the legs, thighs, scrotum and cellular substance of the body; his abdomen considerably distended and fluctuation evident. Headach, cough, pain of the back and belly, pulse 80; urine scanty and high coloured—swellings have been present only a fortnight—they were attributed to cold. Twelve ounces of blood were taken from the arm, and an opening electuary directed. The blood was buffy, and he experienced relief in his cough and pains.

On the 9th, the swelling of the scrotum had

disappeared ; his abdomen was slacker and legs less swelled, urine more abundant and less loaded ; venæsection was repeated to ten ounces. On the 13th, the swelling was altogether gone. On the 16th, there was no return of dropsy ; he complained only of a slight cough and a feel of soreness in the lower belly.

Small doses of blue pill and an aperient mixture, with senna, were directed. On the 20th, as he still complained of this soreness, and as the epigastric region felt hard and tender to the touch, ten ounces of blood were taken from the arm, and a large blister applied over the epigastrium, whilst his medicines were continued : the blood was buffy, but all uneasiness was removed on the 27th, when he was discharged perfectly cured.

Observations.

The character of this dropsical disease appeared to be so evidently inflammatory, that no other remedies were directed in the first instance, except the blood-letting and the aperient electuary. The inflammatory action was probably seated in the peritoneum, as denoted by the pains in the back and lower belly ; the headach and increased frequency of pulse, with the appearance of the blood drawn, shewed that a symptomatic pyrexia

attended the inflammatory disease. After two blood-lettings, the dropsy disappeared, but it was not until after the third venæsection, that the soreness and fullness of the epigastrium were removed. This appeared to be seated in the peritoneum. The blister after the third bleeding seemed very decisive in the removal of those symptoms, which were supposed to depend on chronic inflammation.

The quantity of inward medicine given in this case was very inconsiderable.

CASE XXIII.

Patrick Reilly, æt. 40. June 3, 1817.—a thin sallow man, with a livid countenance, addicted to intemperance, came in affected with very general anascarca and considerable ascites—it had subsisted only 10 days; he complained of pain in his chest, with distressed breathing; his pulse frequent and small, urine scanty and high coloured.

Ten ounces of blood were taken, and an aperient mixture directed—the blood was not buffy. On the 16th, the swelling was diminished, his breathing continued distressed, and his countenance livid: tinct. of squill and digitalis were directed; on the 20th, scarce any swelling; he is so weak as to remain in bed: diuretics omitted.

23d.—Dropsy altogether gone; countenance improved; is still affected with cough and dyspnæa.

27th.—Left the hospital free from dropsy, and much recruited in his general health, but apparently suffering from some organic disease of the heart.

Observations.

Chronic inflammation is generally supposed to be the cause of enlargement of the heart, and of other diseases of structure in that organ; when those organic changes have taken place, dropsical effusion mostly follows. A recurrence of inflammation is not uncommon; indeed it often returns in a more severe form. It is not surprising that textures which have already been inflamed, should again readily take on them the same diseased modes of action, when the occasional causes have been repeatedly applied. This point has been already illustrated in some of the fatal cases,* and it seems to have been the case to a certain extent in the present instance. The concurring occasional causes of cold and intemperance excited an inflammatory affection in some texture near the heart, which terminated in effusion.

* Vid. Case III.

The history of this case would lead us to believe that this inflammatory action in the heart had not occurred for the first time in this recent illness.

The power which venæsection shews in arresting the progress of dropsical effusion, connected with chronic inflammation, is well illustrated in this instance, even though it had to contend with a disease of structure in addition to inflammation and dropsy.

This patient was very soon relieved from the accumulation of fluid which was considerable, and with a very small portion of inward medicine.

The tincture of squill and digitalis was only administered for a few days, but they appear to have acted with great advantage after the inflammatory symptoms had been subdued by venæsection.

CASE XXIV.

James Delahunte, æt. 34, a sailor, July 11, 1817, a strong muscular man, with considerable ascites, and very general anasarca of six months date ; affected also with cough, pain in his chest, pulse 80, full and hard, urine pale, and does not coagulate with heat ; is subject to epilepsy, since he received a wound from a splinter on board ship.

Disease attributed to exposure to cold, fatigue, and intemperance.

Blood was immediately taken to the extent of 12 ounces, and electuary with cream of tartar and jalap directed : on the 18th, although his cough was easier, his pulse softer, and his swellings somewhat diminished, venæsection was repeated to ten ounces ; blood was buffy in both instances ; a third bleeding was practised on the 21st, as he still complained of his chest, although his pulse was natural, his skin soft, and the swelling still more on the decline.

A fourth venæsection was practised on the 25th, and a fifth on the 28th. He bore all these bleedings well, and expressed himself much relieved by each repetition.

On the 4th of August, the anasarca having nearly disappeared, and the ascites being much reduced, a hardness and tenderness on the right hypochondrium was observed.

A blister was applied to the right hypochondrium, pills with squill, digitalis and calomel directed with the occasional use of the electuary. His mouth became sore, the fullness and tenderness in the region of the liver soon went off, and he was discharged perfectly cured on the 8th of September.

He had no epilepsy during his residence of two months in the hospital.

Observations.

In this case some of the textures of the lungs appear to have been inflamed, the liver in a state of sanguine congestion, its membranes probably inflamed, and the whole peritoneum exuding a serous fluid.

This condition of excitement and over-activity in the exhalants of the abdomen appears to have been arrested by the detractions of blood ; but it was not until after the fifth venæsection, and after the loss of 52 ounces, that full relief was obtained as to the pectoral symptoms.

He was not pressed with much inward remedies until the inflammatory state had been fully subdued ; he was a month in the house before the combination of squill digitalis and calomel was directed. This seemed to shew very beneficial effects.

It may be observed that the mercurial course to which he had been subjected before his admission was quite inoperative in removing his disease ; it probably was rather an aggravating circumstance, where too much excitement already existed ; and where inflammation was actually present, mercury

proved prejudicial by adding to the excitement, and increasing the inflammatory diathesis.

It may be noticed with what advantage mercurials often act, in many diseases, after detractions of blood; indeed they often fail for want of the proper preliminary treatment in this way.

It is well known also how much better squill and digitalis act, after patients have been subjected to a depleting plan of treatment, according to the observations of Withering. This point seems to have been illustrated in the preceding case.

The utility of blisters in preventing increased exhalation, and in disposing of effused fluids, may also be observed.

The cessation of his epileptic disease during the progress of the medical treatment is likewise worthy of attention.

CASE XXV.

Edward Clinch, æt. 18, a country lad—pale, with livid lips, and circumscribed purple spot on the cheek, but not emaciated; anasarca in the face, legs and thighs, with considerable ascites; affected with palpitation, and slight dyspnæa; pulsation evident in the region of the heart; urine

natural ; complaints have been present twelve months ; limbs swelled after exposure to cold.

Ten ounces of blood were taken from the arm, from which he expressed great relief. Squill digitalis and calomel, with an opening electuary were directed. On the 13th, the calomel was omitted ; the diuretics were continued. On the 17th, the swellings were reported to recede ; there was less palpitation, but still pulsation in the left side of the thorax ; a blister was applied to the region of the heart, whilst the other remedies were continued. He was discharged, cured of dropsy, on the 24th. The pulsation and palpitation were occasionally observed.

Observations.

This may be considered to be a case of chronic pericarditis, combined with an aneurismal state of the heart, and which terminated in effusion. The diagnostic already stated of œdema of the face may be observed here, and did assist in forming a prognosis, as well as in directing the plan of cure. But the causes of dropsy in all probability were not confined to the thoracic cavity. Venæ-section relieved the heart and its membranes from any chronic inflammation ; the brisk purgative unloaded the liver and the organs of digestion ; after these preliminary measures, the digitalis and squill shewed their legitimate effects.

This patient, however, must be considered as very liable to relapses of dropsy, when any of the usual exciting causes are applied.

CASE XXVI.

William Murphy, æt. 23, October, 10th 1817; a vigorous middle-sized man; a fortnight before his admission was seized with oppressed breathing, cough, hoarseness and palpitation; his face became œdematous; his abdomen next swelled; and lastly, an anasarca state of his legs and thighs followed; his pulse was 80; bowels regular; urine scanty and high coloured.

On his admission, ten ounces of blood were taken; and an electuary with cream of tartar directed. On the 13th, twelve ounces more were taken with evident relief to the pectoral symptoms; squill, digitalis, and calomel were prescribed in addition.

On the 17th, a further venæsection of 10 ounces was practised, an increase of hoarseness and cough having occurred from fresh exposure to cold; at this time all his swellings were much diminished. On the 27th, his dropsical symptoms had altogether disappeared; his respiration was impeded, and the urinary secretion restored; his mouth was

slightly sore. On the 3rd of November he took a warm bath ; and on the 10th, he was discharged perfectly cured.

Observations.

A very formidable disease appears to have been subdued in a very short space of time. The view that was taken of this case was, that both the heart and lungs were the seat of subacute inflammation, which had given rise to effusion, and which probably would have ended in change of structure in these organs, had not a very active treatment been resorted to. That the heart was attacked appears from the palpitation, and oppression with symptomatic fever. There was probably no disease of the valves, or the pulse would not have been regular.

That the lungs were concerned is plain, from the hoarseness, cough and impeded respiration ; it should be noticed that after each bleeding, independent of the relief afforded to the thoracic viscera, there was a diminution of the dropsical swellings.

CASE XXVII.

John Redmond, æt. 29, a servant, October, 27th, 1817. Legs have been anasarcous, and

abdomen much swelled for six months; has had cough and dyspnæa for twelve months; face pale; pulse frequent and small; bowels slow; urine clear, and does not coagulate with heat. Disease came on with cough and spitting of blood, with alternate heats and chills, and with high coloured and scanty urine after exposure to cold, and having been intemperate.

Ten ounces of blood were immediately taken, and an opening electuary directed.

November 3d, dropsical swellings were nearly gone; he still complained of pain and oppression about the heart.

Ten ounces more of blood were taken, and the electuary continued.

November 7th, being perfectly free from pectoral distress, and from dropsical symptoms; he was discharged, cured, on the 10th of November.

Observations.

It is evident in this instance that dropsy was symptomatic of disease in the viscera of the thorax, which had been long in a state of chronic inflammation.

It would have been vain to have attempted the cure of this dropsical disease, on the ordinary plan, by purgatives, diuretics and mercurials. Indeed the short period in which this very threatening assemblage of symptoms was subdued, shews that the mode of treatment adopted was well suited to the removal of the disease. Scarcely any remedies were employed in addition to the detraction of blood, except that attention was paid to the state of the bowels. This case then well illustrates the power of venæsection in the cure of dropsies, connected with disease in the pectoral organs ; and it holds out encouragement not to despair of removing dropsy, although it may have subsisted for the period of six months.

CASE XXVIII.

Owen M'Cabe, æt. 50, a labourer. Feb. 9, 1818. A tall sinewy man, is anasarous all over, and ascites is present ; he has a cough, oppressed breathing, an intermitting pulse, scanty high coloured urine, and a circumscribed purple spot on each cheek. Dropsy has been present six weeks—cough and dyspnæa he has had a considerable time. Disease is attributed to cold and hard labour. He was directed a bleeding of ten ounces, a blister to the chest, and an opening electuary ; a second blister was applied to his back a few days

subsequent ; squill pills, with digitalis and calomel, were also prescribed.

On the 9th of March, swellings were gone, except from his legs; the œdema shifted from his lying in bed, to his right thigh, which became erysipelatose; at this time his palpitation was distressing, his pulse intermitting, and his strength much reduced. Infusion of gentian with acetum colchici was directed. March 30th, erysipelas of the thigh has suppurated extensively; it has been opened, and a purulent discharge, above two pints in quantity, has been drawn off.

April 13th.—Dropsy gone; erysipelas has disappeared; palpitation continues.

May 10th,—Discharged cured.

Observations.

This case appeared almost hopeless in the first instance, and completely so when the extensive erysipelatose inflammation attacked the œdematous limb.

Erysipelas is a frequent attendant on those dropsies, which depend on an aneurismal state of the heart, especially where the valves are diseased, as in this case; but the result is almost uniformly fatal.

It is not easy to say what influence the blood-letting might have exerted on the erysipelas, or how it might have varied the usual progress and termination of so dangerous a complication of diseases.

The dropsy was going off when the erysipelato-se inflammation of the cellular substance of the thigh occurred; but there appeared to be great relief afforded to the pectoral organs, as if by the conversion of one disease into another perhaps not less formidable. Again, when there was a cessation of the suppurating erysipelas, the palpitation and dyspnæa were more distressing; the dropsy, however, did not return, although this man was kept in the house for a considerable time after.

There is reason, however, to apprehend the dropsy will return, whenever the occasional causes are again applied.

The history of this case shews that dropsy was only symptomatic of the state of the pectoral organs; a chronic carditis seemed to be present along with an aneurismal condition of the heart, and effusion was the result.

We cannot say how far the powers of life will

endure changes of structure in important organs, but we know in many instances, that partial relief will arrest the progress of destructive maladies : hence arises the value of palliative treatment, where a radical cure is quite impracticable : life is thus often prolonged under the pressure of urgent diseases, and human suffering much diminished ; of this, the case before us affords a most striking illustration.

CASE XXIX.

Hugh Fitzpatrick, æt. 40. March 2, 1818.—Legs and thighs are very hard and œdematous ; abdomen quite full and distended—is teased with cough and soreness of his chest, chiefly about the heart ; pulse moderate, urine scanty, frequent epistaxis ; symptoms are present five months ; they came on after a fall into a deep ditch, where he suffered from wet and cold.

Ten ounces of blood were taken, and a cathartic electuary prescribed ; he felt immediate relief in his chest after the venæsection.

On the 9th, his swellings had diminished, and the urine had increased.

Pills with squill, digitalis and calomel, were directed.

On the 13th, the calomel was omitted, it having appeared that mercury had been tried to salivation before his admission.

Tinct. of squill and digitalis were substituted. On the 16th, his stomach being disordered, and vertigo having occurred, infusion of gentian, with acetum colchici, were given instead of the tinctures. He used the warm bath a few times; his swellings altogether disappeared, and he was discharged, cured, on the 4th of May.

Observations.

Dropsy occurring after a fall or an injury, seldom promises a favourable result, especially after having been four months established. Immediate relief was afforded to the pectoral organs by the venæsection, and freedom of function was promptly restored to them. The secretions were re-established without much exertion, and the dropsical accumulation soon disappeared. It is easy, therefore, to infer, as well from the causes which appeared to induce this disease, as from the treatment adopted, that it was inflammatory in its commencement, and that even after four months had elapsed, it was not too late to resort to those remedies, which are considered the most efficient in local phlegmasiæ.

CASE XXX.

Valentine Reilly, æt. 20.—April, 24, 1817. Face, legs, thighs and body are anasarcous, and abdomen affected with ascites; cough, and dyspnæa are present, with a small indistinct pulse; has no local pain—urine natural—cheeks flushed—complaints are ascribed to cold; they are of nine weeks date.

He was first tried with a cathartic electuary, and with squill, digitalis and calomel, in combination: these having made no impression, venæsection was practised on the 30th of April, and again on the 2nd of May; after this the swellings soon disappeared, and he was discharged, cured, on the 22nd of May.

Observations.

There is reason to believe the complaints in this instance are fairly attributable to an inflammatory origin; the heart appeared to be the organ which suffered most; it was probably in a chronic inflamed state on his admission into the hospital; it is important to observe, that it was not too late to resort to venæsection, even after the trial of other methods of cure.

CASE XXXI.

Anne Conlan, æt. 30, married, November 17, 1817. Abdomen very large, with evident fluctuation; legs, thighs and pudenda anasarcous; looks pale; swellings of a fortnight's date; cough, with considerable dyspnœa, pulse frequent and hard; tongue white, urine high coloured and scanty---bowels slow; no catamenia for 3 years, when she had her last child. Disease ascribed to cold.

Venæsection to ten ounces, an opening electuary, and tincture of squill and digitalis directed. On the 21st, there was a considerable diminution of the anasarca, but there was pain under the sternum, with oppressed breathing.

Veæsection was again directed, and a blister to the chest, the other remedies being continued.

On the 24th her pectoral symptoms were relieved, and her swellings almost gone. She was discharged cured, on the 1st of December.

Observations.

The concurrence of dropsy in this instance, with an inflammatory disease of the chest, is so evident, that it is unnecessary to dilate on it. It

may be observed, in how very short a period of time this patient was restored to health, under very unpromising circumstances ; and how small a portion of inward remedies were required, after the venæsections and the blister. She had, however, the advantage of early medical treatment, compared with other patients.

CASE XXXII.

Rose Keegan, æt. 50, July 21, 1817. Pale and sallow, with cough, dyspnæa, and loss of rest for five weeks ; became anasarous, within the last week : abdomen full, pulse small, not frequent, urine scanty and red, bowels slow ; catamenia had ceased for four years.

Blood-letting to ten ounces, and a blister to the chest were immediately resorted to ; tincture of squill and digitalis, with an opening electuary were directed ; she experienced immediate relief in her chest, and the dropsy soon disappeared.

August 1st, her stomach became much disordered from the digitalis and squill. These symptoms were settled by infusion of spearmint, with soda and lemon, taken in effervescence ; and by the

assistance of some light cordials, her strength was soon restored.

She was discharged, cured, on the 11th of August.

Observations.

It is material to observe here, that chronic inflammation, which appears to have subsisted for five weeks, was not denoted by any marked, febrile, or inflammatory symptom ; there was no acceleration of pulse; effusion, however, was going on during that period. It may be remarked how very soon a removal of the dropsical disease took place, under symptoms of unusual apparent debility, and whilst she was subjected to a depleting and debilitating treatment.

There can be no doubt, therefore, of the inflammatory nature of the disease in the case before us ; but this patient had the advantage also, as in the last instance, of very early medical treatment.

CASE XXXIII.

Margaret Morgan, æt. 28, January 9, 1818, was attacked three weeks before her admission, with severe cough, oppressed breathing, and pain of chest ; to these succeeded pains in her legs and thighs, which afterwards became anasarious ; pulse frequent, urine red and scanty.

Ten ounces of blood were taken, and a pectoral mixture ordered.

On the 12th, a blister to the sternum—her swellings had already begun to diminish.

On the 30th, venæsection was again directed, her cough and pain of chest having rather increased.

On the 9th of February, venæsection was practised a third time, her cough being still obstinate, and some blood having been spit up. Tincture of digitalis was prescribed.

February 20, dropsy had for some time quite disappeared; the pectoral symptoms were removed. Discharged cured.

Observations.

The dropsy was nearly gone after the first bleeding and the blister; there was more difficulty in subduing the pectoral disease, which appeared to be evidently inflammatory. The pains felt in the integuments of the legs and thighs, antecedent to the œdema in the cellular substance of the limbs, is worthy of notice; it appeared to arise from an inflammatory affection of the membranous tissue constituting the cellular substance,

which preceded the effusion of fluid, from the exhalants into those cells. General anasarca may occur in this way from cold, independent of any visceral disease, but this form of dropsy is rare; it occurs sometimes in this way after scarlatina, and the other exanthemata. In the case before us, however, dropsy was chiefly symptomatic of disease in the thoracic viscera.

CASE XXXIV.

William Tuite, æt. 24, a newsman, May 23, 1817—a strong muscular man, addicted to drink ardent spirit; became affected with very general anasarca seven months before his admission; ascites of the abdomen also of unusual size, which is tender on pressure all round; cough and pain of chest are likewise present; pulse moderate; urine scanty and red; has been constantly exposed to severe weather.

A bleeding of 12 ounces, 4 grains of calomel, and an opening electuary were directed.

A second bleeding of 10 ounces was practised, on the 6th of June. Blood was buffy in both instances; his chest was relieved; the tenderness in the abdomen was gone; on the 9th, blood was ta-

ken a third time ; after this the swellings were a little reduced ; on the 13th, the œdema had left his legs ; the abdomen was softer.

On the 20th, his mouth was sore ; calomel omitted ; tincture of squill and digitalis directed.

On the 23d, still further reduction of the swellings.

30th, Return of pain in the right side ; reduction of the swellings is however progressive ; a fourth bleeding of 10 ounces directed.

July 4th, anasarca gone ; enlargement not altogether removed from the abdomen ; blisters were used in succession to the different parts of the abdomen.

On the 22d, he was discharged, cured ; he used warm baths frequently with advantage, during his convalescence.

Observations.

The sequel of this case has already been given.* Tuite became again dropsical, died, and was examined, as related before. That the disease was inflammatory at the time this patient re-

* Vid. Case x.

lapsed, has been ascertained by the appearances after death ; that it was equally so in his first illness, appears probable as well from the symptoms as from the mode of treatment.

There were sufficient signs of membranous inflammation in this his first attack ; the pains in his side, and the tenderness in the abdomen on pressure sufficiently denoted it. The palpable relief that followed each detraction of blood was very striking ; and the diminution of dropsical swelling seemed to keep pace with the abatement of inflammatory symptoms.

The inflammatory action appeared disposed to attack some of the textures in the thorax, but it was arrested by the treatment.

It is important to observe the effects of the last venæsection. On the 30th, symptoms of a recurrence of inflammatory action appeared at this period, but the detraction of blood effectually put a stop to it.

This man was kept a long time in the hospital, in the hopes of making him avoid the occasional causes of his disease as long as possible. Indeed to complete the cure of dropsy, a considerable time should be dedicated, to allow inflamed and altered textures to regain their healthy condition.

In his second and last attack, there is reason to believe, had he been treated boldly with the lancet, he might have again surmounted his disease ; his strength on his readmission had not failed, but the absence of cough and of the local pains in the abdomen, which was so striking on his first illness, decided the point against venæsection ; and yet we find that he died chiefly from acute inflammation of the peritoneal coat of the omentum ; a chronic inflammatory condition had probably long existed in a masked and obscure form. This case is instructive as to the pathology of dropsy, and it throws no small light on the treatment of such diseases, when they are not of very old standing.

CASE XXXV.

Hugh Carroll, æt. 40, a countryman, July 25, 1817—a strong man, affected with ascites to an unusual extent, attended with pain on pressure, of a month's duration ; no anasarca, pulse frequent, skin hot, tongue white, urine scanty, not red, bowels slow ; ascribes his disease to cold.

Venæsection was practised to 12 ounces on the 25th, and to ten on the 28th, and a cathartic medicine with senna directed.

On the 1st of August, a large blister was applied

to the epigastrium ; on the 15th a second, and on the 25th a third to the same region ; he also took small doses of blue pill and cream of tartar.

He was discharged perfectly cured on the 19th of September.

Observations.

The serous membranes investing the liver and adjacent organs appear in this instance to have been the seat of disease, and to have furnished the fluid which gave rise to the ascites. The treatment was very simple ; after the second bleeding, the pains had left his abdomen, denoting that they had been inflammatory. The blisters in succession removed all hardness and congestion from the epigastric region.

The good effects of repeated blistering after venæsection, in other cases of membranous inflammation, are generally admitted ; and they are well illustrated in this instance as to the connection which subsists between dropsy and peritoneal inflammation. They may be supposed to diminish exhalation and increase absorption.

CASE XXXVI.

Sarah Holt, æt. 35, October 10, 1817—a pale sallow woman ; her abdomen extremely large ; tense and sore on pressure ; legs anarsarcous ; pulse

small and frequent ; urine scanty and high coloured ; disease came on with purging and passing of blood by stool ; it has subsisted for a month. She ascribes it to cold and bad food.

Her medical treatment in the hospital, which occupied four months, consisted of four general bleedings, cupping repeatedly to different parts of the abdomen ; according to the seat of the local pain, a succession of blisters on different parts of the abdominal surface.

She was first given blue pill, with opium and castor oil, until her dysenteric symptoms were removed, she was afterwards subjected to the influence of squill digitalis and colchicum at different periods ; jalap, and cream of tartar were also administered occasionally. She was discharged, cured, Feb. 21, 1818.

Observations.

The mucous membranes of the intestines appeared first to have been diseased ; the inflammatory action afterwards extended to the serous membranes of the abdomen, and effusion was the result. Chronic peritonitis was the chief disease ; dropsy was symptomatic ; by subduing the phlegmasia, the hydropic disorder was removed, by

putting a stop to the increased secretion from the serous membranes.

CASE XXXVII.

Owen Sweeney, æt. 40. Aug. 4, 1817. Abdomen very large, tense, elastic, sore to the touch, and containing a fluid ; anasarca of the legs ; urine scanty, and high coloured ; cough occurs occasionally ; disease of six weeks duration ; he has been exposed to cold, and has been very intemperate.

His medical treatment consisted in two general venæsections ; blisters repeated at intervals to the abdominal surface ; an aperient electuary, with cream of tartar, and the warm bath occasionally. He was discharged cured the 3d of October.

This man had the epidemic fever, from which he recovered in April 1818 ; he had no recurrence of dropsy.

Observations.

Chronic peritonitis appears to have been the primary complaint in this instance, induced probably, by intemperance and exposure to cold ; effusion, as has been well observed by Dr. Blackall,

is the natural cure for inflamed serous membranes, otherwise, change of structure takes place.

The treatment appears not only to have subdued the disease, but to have proved prophylactic, with respect to its return. The medical treatment most likely to effect permanent cures, is that which looks to the causes of disease, and which goes to prevent organic changes of structure: whereas, palliative treatment in chronic diseases, leaves patients constantly liable to relapse.

CASE XXXVIII.

Thomas Keegan, æt. 50. Feb. 6, 1818. Two months before his admission was attacked with severe pain in the epigastrium, after a rigor subsequent to exposure to cold and wet. His abdomen immediately swelled, and his limbs became anasarcaous; pulse frequent, and small; epigastrium hard, and painful to the touch; urine scanty, and high coloured.

General blood-letting was practised twice at the interval of a few days; a large blister was applied to the epigastrium; this was repeated three times, allowing the period of a week to intervene between each application.

He took blue pill in small dozes, and cream of tartar with jalap.

His swellings soon began to subside, the œdema of his ancles remained for a longer period ; it was, however, ultimately removed, whilst he took infusion of gentian, with the acetum colchici. He was discharged, cured, the 10th of April.

Observations.

This appears to have been another instance of neglected peritonitis undergoing the natural cure by effusion, and establishing the dropsical state. The stages of this complaint follow in such regular succession, that there can be no doubt of the inflammatory nature of the case before us. The plan of cure was, first to do away, as far as practicable, all traces of inflammation, and afterwards dispose of the effused fluid.

Large blisters to the abdomen, after venæsection suited to the strength of the patient, appear to be very impressive remedies in removing chronic inflammation, and promoting the absorption of effused fluids.

CASE XXXIX.

Mary Dunne, æt. 22. September 4, 1817. Her abdomen is very much distended with evident

fluctuation ; her face emaciated ; pulse frequent and small ; urine and bowels natural : dropsy is present four months ; menses have not appeared for ten months.

Complaints are ascribed to cold and fatigue ; cream of tartar and calomel were first prescribed, afterwards digitalis and squill, with purgatives : some diminution of her size had taken place.

On the 28th, coldness and shivering came on with severe pains in the back, and round the belly ; after this, she became hot and feverish. Twelve ounces of blood were taken ; castor oil administered with effervescing draughts ; the pain ceased after the bleeding.

On the 30th, a second venæsection was practised, as she had a threatening of a return of pain. Her dropsy subsided after this without any further effort, and she was discharged, cured, on the 6th of October.

Observations.

This case, at first view, appeared so unfavourable for the use of the lancet, that bleeding was not directed in the first instance. Chronic inflammation, however, probably was in existence. On the 28th, it seemed to assume a subacute or acute

form, and it became necessary to resort to those remedies, which at first were deemed unfit.

It may be collected from this case, that when inflammation is present, even in the masked or lurking form, in which it often exists in the peritoneal membranes, that it is vain to rest our hopes on the ordinary modes of treatment; a bold practitioner will often succeed in cases by venturing on the lancet, or on local bleeding with blisters: but it by no means follows from this, that bleeding is a remedy accommodated to every stage and form of dropsy.

CASE XL.

Thomas Dillon, æt. 34. September 3, 1817. Ascites of the abdomen, with anasarca of the legs, thighs, scrotum, and body; countenance pale; dropsy of three weeks date; it came on with general soreness and pains in the fleshy parts; pulse frequent, urine pale; was cured of dropsy eight years before the present illness.

He was directed squill, digitalis and calomel, in combination with a cathartic electuary. In three weeks the swellings were nearly gone; a rigor, however, occurred on the 6th of October, with pain in his back and loins, and subsequent deve-

lopement of feverish heat. Twelve ounces of blood were immediately abstracted, cream of tartar and blue pill were given, a warm bath was used occasionally. He was discharged, cured, on the 3d of November.

Observations.

This is another instance of the inefficacy of ordinary treatment, where inflammation exists ; and is an illustration of the utility of an active plan of treatment, when acute inflammatory symptoms supervene upon that state, where the practitioner is in doubt if any is present. A disease of this nature could never be subdued on the idea that relaxation and debility were the predominant features in dropsy ; and of course, the more advanced the disease, the greater the relaxation ; whereas, this case, with others, would induce us to believe, that chronic inflammation may be present without its being easily detected, and that acute inflammation may supervene at any period of these disorders.

The painful state of the cellular texture, antecedent to the infusion, is well worthy of remark ; sudden congestion, and in some instances, inflammation of the fine serous membranes, which compose the cellular tissue, appears to be the cause of this, and venæsection will generally be

found a remedy well suited to this modification of dropsy, more especially if it is recent, or should have manifested itself after exposure to cold, or after exanthematous and other fevers.

CASE XLI.

Michael Nicholas, æt. 30.—Sept. 26, 1817.—A pale thin but muscular man, who had lately recovered from the epidemic fever, in the Hardwicke Hospital, on exposure to cold, was attacked with pains in his bowels, diarrhæa, and passing of blood: immediately after this, ascites to a considerable degree came on with anasarca of the face, legs, thighs, and scrotum; pulse 80—urine scanty and high coloured—respiration unaffected.

He was directed venæsection to ten ounces; after this his pulse was reduced in frequency, and the urine increased: blue pill and cream of tartar were given; his swellings very soon subsided, and he was discharged, cured, on the 10th of October.

Observations.

This is another instance of conversion of disease,* somewhat similar to the case of Sarah

* Vid. Case, by Dr. E. Percival, Dub. Hosp. Reports, p. 293.

Holt,* where dysentery first occurred ; in fact in the case of Nicholas, the mucous membrane of the intestines first shewed symptoms of disease ; on the subsidence of this, all the serous membranes of the body, including the cellular † substance of the skin, as well as the preitoneum, being in an excited state after fever, and exposure to cold, they readily took on them an inflammatory disposition, which soon ended in effusion. This is the kind of dropsy which frequently follows scarlatina, measles, and small-pox ; had venæsection been resorted to in the dysenteric stage of this complaint, no dropsy, in all probability, would have ensued.

CASE XLII.

Catherine M'Cann, æt. 24. Feb. 20, 1818.—Abdomen is enlarged, hard, tumid, and evidently contains a fluid ; pulse rather frequent, tongue white, urine high coloured ; enlargement came on eighteen months before her admission, after a miscarriage ; it was attended with severe pains in the abdomen at the time, and they have recurred occasionally.

She was bled to ten ounces, small doses of calomel were given, and her bowels regulated by castor oil.

* Vid. Case xxxvi.

† Vid. Bichat Anat. Gen. p. 514.

On the 23rd, after the venæsection, the pains were gone, the swelling had already diminished, and the secretion of urine was more abundant and of a better colour.

Cathartic extract, with calomel was given every night, and an aperient mixture with senna on the alternate mornings.

Under this treatment the ascites disappeared; she recovered her health, and was discharged, cured, on the 9th of March.

Observations.

The puerperal state frequently gives rise to inflammatory affections of the serous membranes of the abdomen; when these are acute and attended with fever, the result is for the most part rapid, and often fatal. When the inflammation is chronic, it is generally succeeded by effusion, unless a suitable treatment is soon adopted, and often with every care.

In the present instance it is fair to infer, that it was not too late to resort to venæsection, even though eighteen months had elapsed since the commencement of the disease; and that chronic peritonitis with attendant dropsical effusion, was

the diseased state upon which this remedy shewed so decidedly beneficial a result.

CASE XLIII.

Anne Barton, æt. 30, April, 24th, 1818. Abdomen distended, and containing a fluid; legs and thighs anasarca; cough; dyspnœa; livid countenance; stuffing; small and frequent pulse; tongue white; urine scanty and high coloured. Disease has subsisted three weeks; it came on after lying in, with pains in her chest and belly.

Blood-letting was directed with small doses of calomel and an opening electuary.

The venæsection was repeated a few days after: her cough and breathing were much relieved, and her swellings had already in some degree subsided: after this blisters were applied to different parts of the thorax and abdomen, and squill with digitalis and calomel, were continued until her swellings had altogether disappeared.

She was discharged, cured, on the 12th of June.

Observations.

Inflammatory symptoms in this patient seem to

have been present both in the thorax, and in the abdomen.

This case, although it was more recent than the preceding one, was more difficult to cure; the lesions of texture were probably more considerable, especially in the thoracic viscera.

The heart, lungs and serous membranes of the abdomen, all appear to have been involved in inflammatory action.

CASE XLIV.

John Ashmore, æt. 54, a labourer, March 27th. Abdomen has been five months swelled, with fluctuation, hardness and pain in the epigastric and hypochondriac regions—scrotum painful, and obliged to be supported by a suspensory, but not œdematous; pulse frequent; urine high coloured and scanty.

Ascribes his complaint to cold and wet. Ten ounces of blood were taken from his arm, and blue pill directed in small doses.

A blister was afterwards applied to the abdomen, and subsequently tincture of squill and digitalis given in conjunction.

The ascites soon disappeared ; the local pains having subsided, and the urinary secretion having been considerably augmented, he was discharged, cured, the 13th of April.

Observations.

This was evidently a case of chronic peritonitis ending in dropsy ; and is another instance which shews that it was not too late, after five months, to resort to venæsection as a remedy.

The painful state of the scrotum deserves attention ; it was probably preliminary to an anasarous condition of that portion of the cellular substance, as well as of a general anasarous state. It is probable that this tendency was arrested by the treatment, which, in removing the inflammatory state of the cellular system, prevented effusion, and put a stop to the establishment of a general anasarous habit.

Although there is nothing new or important in the twelve cases which follow, it is necessary to give them, in order to complete the history of all the patients that were discharged cured. The latter were not considered fit subjects for

the use of the lancet ; still, however, some instruction may be gathered from a close investigation of them : comparatively speaking, they may be considered to possess less practical interest than those already related.

CASE XLV.

Thomas Kane, æt. 60, May 16, 1817, a labourer—a large stout man, but pale and sallow, with general anasarca of six weeks duration ; it commenced in his legs, next appeared in his thighs and belly successively—urine scanty and high coloured, pulse and respiration natural—a very slight cough.

Disease was ascribed to cold ; his treatment consisted in electuary, with jalap and cream of tartar, tincture of squill and digitalis in combination, and small doses of blue pill : his swellings soon disappeared, and he was discharged, cured, on the 9th of June.

This man's dropsy returned in April 1818, for which he was again under treatment, in the Whitworth Hospital, annexed to the house of Industry.

It may be worth while to consider, whether if venæsection had been employed, this man's cure

might not have been more permanent and satisfactory. Some inward change of structure, it is probable, maintains this dropsical tendency.

CASE XLVI.

John Goodbee, æt. 52, a smith, June 2, 1817. A very dark complexioned sallow man, with anasarca of the legs, thighs, scrotum and body, also ascites of the abdomen, attended with cough, dyspnæa, irregular pulse, and scanty urine. He had been six months dropsical, and had been long subject to pain in various parts of the abdomen.

He had a blister to the sternum, pills with squill, digitalis and calomel, and the opening electuary. He was discharged cured, 13th June.

His dropsy returned in July; and under a similar treatment, he was discharged cured, on the 10th of August.

He was admitted a 3rd time, on the 23rd February, 1818, blooded to ten ounces and discharged, cured, on the 20th March.

There is reason to think the heart is aneurismal, and the valves disordered, and that the dropsical effusion will recur.

CASE XLVII.

Henry Johnstone, æt. 54, a soldier, July 25, 1817, is affected with jaundice, anasarca and ascites of seven months date ; pulse natural, urine olive coloured ; complains of palpitation and a dull pain, occasionally in the epigastrium. Jaundice appeared first, the dropsy succeeded immediately.

A purgative electuary, with jalap, calomel pills, and a warm bath occasionally, comprised the whole of his treatment—his mouth was slightly affected. The jaundice and dropsy disappeared at the same time.

He was discharged, cured, the 11th of August.

Dropsy in this instance, was symptomatic of the condition of the hepatic viscera. The purgatives and calomel removed the congestive state of these organs.

Had inflammation been present, these remedies, in all probability, would not have proved sufficient.

CASE XLVIII.

Anne Sterne, æt. 40, July 30, 1817—Anasarca is very general ; it is very conspicuous in the integuments, on the left side of the thorax, the cavity of which is more prominent in that region.

The œdematous limbs are also sore and painful to the touch ; abdomen full, and with evident fluctuation ; is affected with cough, and oppressed breathing, with debility and tremor ; pulse frequent, tongue clean, urine high coloured, no catamenia for two years—a large full woman, not reduced in flesh.

A large blister was applied to the chest ; blue pill and electuary, with cream of tartar were directed. Her breathing was soon relieved, and as the swellings subsided, an enlargement in the region of the spleen was discovered ; whilst she persevered, however, in the purgative plan, and took in addition, squill, digitalis and calomel, both the solid enlargement, and the watery accumulation disappeared : she was discharged, cured, on the 22nd of August.

CASE XLIX.

Henry O'Neil, æt. 37, September 26, 1817,—after exposure to cold when heated, his legs became œdematous, and his abdomen swelled. He is pale, feeble and sallow ; disease is present a month.

After taking a few doses of a cathartic electuary, the anasarca disappeared ; on a continuance of it, and some calomel pills, the ascites was remov-

ed, and he was discharged, cured, on the 10th of October.

The disease was probably inflammatory in its commencement, and ended in effusion ; but there appears to have been no change of structure in any material organ or texture. The effused fluid was easily disposed of, without much effort as to medical treatment.

A single venæsection on the first appearance of the œdema occurring under such circumstances, would probably have removed the dropsical disease at once, and promised more security against a return of his illness.

CASE L.

Mary Connor, æt. 60, October 27, 1817. Legs anasarcous for 2 months, face occasionally so ; abdomen large and full ; no cough, but considerable oppression on lying down ; pulse moderate ; bowels and urine natural.

Electuary with jalap, and cream of tartar, was first directed ; afterwards tincture of squill and digitalis, in camphor mixture. Whilst she took these medicines, the swellings disappeared, her breathing was relieved, and she was discharged, cured, the 28th of November.

Some organic disease about the heart, or effusion into the pericardium, was suspected.

CASE LI.

Anne Rorke, æt. 62, a cook, November 7, 1817. After cold and fatigue in sitting up a number of nights in succession, anasarca of the legs came on; the abdomen then swelled, attended with pain; her abdomen is now very large; breathing oppressed; pulse moderate; urine and bowels natural. Dropsy is present four months. She is a full fat woman.

She took small doses of calomel with squill and digitalis, besides cream of tartar with jalap; her swellings disappeared, and she was discharged cured on the 24th November.

Notwithstanding the removal of the dropsical accumulation, this cure proved incomplete; it is probable that chronic peritonitis still remained after the effused fluid was disposed of, and that the lungs continued in a congestive state. The result of this case is known; it is already related, that she died* of a return of dropsy in the month of February following.

Had venæsection been employed once or twice in this instance, to which there was no objection

* Vide case XVIII.

from debility, the result might have been very different ; but she was averse to have it practised.

CASE LII.

Catharine Fitzgerald, æt. 10, January 8, 1818, an unhealthy looking child, emaciated, with livid skin and purple lips ; complaining also of palpitation, with frequent and irregular pulse ; was universally anasarcaous, with ascites of the abdomen.

Dropsy has been present four months ; it came on with cough and pain of chest, after the natural small pox ; bowels free ; urine red and scanty. —Electuary with cream of tartar and oxymel of colchicum increased the discharge of urine ; the dropsical effusion disappeared, and she was discharged, cured, the 26th of January.

Dropsy will probably return ; the disease was evidently inflammatory in the first instance : early venæsection might have arrested those changes of structure which have taken place in the heart and pericardium.

CASE LIII.

Edward Blake, æt. 48, a coach-driver, January 29, 1818. His abdomen is enlarged, hard and sore

on pressure, evidently containing a fluid ; considerable anasarca of the limbs ; swellings are present three weeks ; pulse frequent and small ; urine high coloured and scanty ; countenance pale ; disease came on with cough and pain in both sides.

Has been twice dropsical before ; each time the swellings subsided under treatment in this hospital : the last twelve months before the present attack, has been very intemperate.

He was subjected to the influence of purgatives, mercurials, squill, and digitalis ; large blisters were applied repeatedly in succession on the abdomen ; his treatment occupied nearly three months ; he was, however, discharged cured and free from dropsy on the 27th of April. There is reason to apprehend the disease will return.

CASE LIV.

Michael Carr, æt. 46, April 3, 1818, a full man ; legs, thighs, hands and body anasarcous ; abdomen full ; general pains and weakness in his limbs which disable him from walking ; is affected also with dyspnæa, palpitation, small and irregular pulse, high coloured and scanty urine ; stitches are felt occasionally in the region of the heart ; dropsy came on gradually.

The swellings were removed whilst he took ca-

lomel, a bitter infusion with colchicum, and an opening electuary. Blisters were frequently applied ; it was difficult to dislodge the œdema from his left hand and leg. He was discharged free from dropsy on the 22d of May.

His heart is probably aneurismal, with disease of the valves : perhaps venæsection, even at the late period that he came into the hospital, might have proved useful ; but his excessive muscular debility prevented its adoption.

CASE LV.

Mary Hughes, æt. 50, April 3, 1818. Abdomen enlarged, and with evident fluctuation ; legs and thighs anasarcaous ; swellings were preceded by pains in the chest and belly ; at present they are gone ; pulse moderate ; urine scanty ; bowels slow.

An opening electuary with cream of tartar, and calomel pills, were directed. Under this treatment the swellings soon beganto subside.

She was discharged, cured, the 4th of May. In inflammatory symptoms evidently preceded the appearance of the swellings, but at the time of her admission they had disappeared.

CASE LVI.

George Tierney, æt. 30, a servant, April 23, 1818. Having exposed himself to wet and cold, a week previous to his admission, was affected with cough and pain of chest ; immediately after his legs and thighs became anasarcous ; pulse on admission moderate ; urine scanty and high coloured ; bowels slow ; no dyspnæa and no local pain ; looks pale and feeble.

The opening electuary, with cream of tartar and calomel pills, were directed : his swellings soon disappeared, and he was discharged, cured, the 11th of May.

Venæsection was not used in this case, although the disease appeared in an inflammatory form.—The catarrhal disease subsided spontaneously, and the dropsy, which was only symptomatic of it, soon receded ; had bleeding, however, been employed on the first attack of the pulmonic disease ; the dropsy might have been prevented.

To complete this report, according to the plan proposed, in addition to the fatal cases, and the successful cases already related, it is necessary to

give an account of such patients as were otherwise disposed of. Seven of those which remain, although they were not cured, received considerable relief from medical treatment ; eight patients did not obtain any benefit from the remedies employed, and three left the hospital in a few days after their admission, without submitting to any curative plan.

These cases shall be related very briefly, as this report has already been too much extended ; but it is requisite to do so, to avoid any imputation of selecting cases.

CASE LVII.

Mary Glynne, æt. 18, May 3, 1817, had been above twelve months generally anasarcaous, with dyspnæa and irregular pulse ; considerable ascites was also present ; disease was attributed to cold and menstrual suppression.

She underwent a mercurial course in another hospital ; and after her admission into Steeven's hospital, she took squill, digitalis, cream of tartar, calomel, and purgatives, with very little effect.

Pains in the abdomen in both sides gave her great distress, as they occurred frequently.

She was blooded on the 6th of June to ten ounces ; it was repeated on the 9th ; the pains were removed.

On the 24th June, the venæsection was repeated, on account of a recent cough, and a return of pain. There was a considerable diminution of dropsical swelling after each bleeding. She was discharged, however, at her own desire, on the 4th July ; her swellings diminished, and her breathing relieved, but still dropsical.

CASE LVIII.

James Johnson, æt. 33. a soldier, May 1st, 1817, had been dropsical ten months ; legs anasarcous, and oozing a serous fluid ; abdomen enormously distended ; a short disappearance of the swellings took place after a mercurial course, to which he submitted before his admission ; his pulse frequent and small ; his sides painful on pressure ; urine scanty, and high coloured ; blue pill and digitalis with cathartics, were first tried. On the 13th June, some blood was taken with a view to relieve an increase of pain in the right side ; the swellings were somewhat reduced after that measure. On the 20th June, the paracentesis was performed : he left the hospital however in July ; his swellings still continuing, but in a less degree.

CASE LIX.

Mark Giles, æt. 23, works in a brewery—June 20, 1817. His abdomen is considerably distended with evident fluctuation ; anasarcaous swellings of the limbs have alternated with diarrhæa for ten weeks ; they have become permanent within the last ten days ; pulse frequent, small, and irregular ; cough ; dyspnæa ; livid countenance ; scanty red urine ; his illness was ascribed to alternate exposure to intense heat and cold. After he had been a few days in the house, erysipelatose inflammation attacked his thighs, which were œdematous ; he had every appearance also of being affected with subacute inflammation of the pericardium.

This formidable combination of symptoms, it was attempted to meet with general venæsection, which was repeated four times with great relief, and castor oil in the first instance ; afterwards, blue pill with opium, and tincture of digitalis and squill, were administered.

He left the hospital free from dropsy : indeed, so far as that disease was concerned, his case might have been placed amongst the patients cured ; but he appeared to suffer from the state of his pectoral organs, and he was occasionally teased with diarrhæa.

It should have been mentioned, that he drank ardent spirit freely, to enable him to endure the sudden changes of temperature, to which he was exposed at his work.

This is another instance of erysipelas, in conjunction with anasarca, and disease of the heart ; somewhat analagous to the case of Owen M'Cabe.* The symptoms were too far in advance, the organic changes in structure were too material, to expect any thing like a permanent cure.

CASE LX.

Anne Cassidy, æt. 55. August 18, 1817. A pale leuco-phlegmatic woman, with ascites and anasarca of five weeks duration ; cough ; dyspnæa ; frequent pulse ; urine and bowels natural.

The dropsy was nearly removed whilst she took calomel, and an opening electuary, a blister having been first applied ; she remained feeble however, and oppressed in her breathing, and she left the hospital to go to the country on the 15th of September.

CASE LXI.

Jane Little, æt. 11. January 8, 1818. Ascites amazingly large, with shooting pains occasionally

* Vide Case XXVIII.

n the abdomen ; face emaciated ; no anasarca ; urine scanty, and red ; disease appeared six months before her admission, attended with severe pains in her belly, cough, and dyspnæa ; disease attributed to bathing when heated, and taking some strong doses of salts.

Small doses of blue pill with cream of tartar, were employed, and she left the hospital, her swellings having been somewhat reduced, on the 13th February.

CASE LXII.

Laurence Kenny, æt. 67, a brick-layer, Nov. 1, 1817. Ascites of 5 months date, attended with pain on pressing the abdomen ; no anasarca ; has used before his admission, drastic purgatives and mercurials, rather with aggravation to his pains ; pulse moderate ; tongue white ; bowels and urine natural.

Three general bleedings, castor oil repeated, blisters to the abdomen were first directed.

Subsequently small doses of blue pill with opium, and cream of tartar electuary ; his swellings were diminished, but his health was not restored ; he left the hospital on the 20th December.

CASE LXIII.

William Carson, æt, 40, a labourer, April 3rd, 1818. A full strong man, with ascites and general anasarca, for six weeks before his admission; hard cough, pain in the right hypochondrium and hip, frequent and full pulse; costive; urine clear; disease ascribed to cold.

Was cured of dropsy, 12 months before in the hospital.

His cough, and pain of side were removed after a general venæsection and a blister; his dropsical symptoms subsided, whilst he took an opening electuary, besides diaretics with mild mercurials.

He left the hospital on the 25th June, a slight œdema in his ancles only remaining.

The eight cases which follow, did not receive any benefit from remedial treatment, whilst they remained in the hospital.

CASE LXIV.

John Murray, æt, 6. May 30, 1817. Ascites to

an unusual degree ; no anasarca ; pulse frequent ; urine clear ; it came on after fever 6 months before his admission.

Leeches were directed to the abdomen ; they were not however applied. Calomel, repeated blisters, and the paracentesis twice, were employed ; he left the hospital on the 25th July, equally large as on his admission.

CASE LXV.

John Roche, æt. 17, June 23, 1817. Has had frequent returns of general dropsy within the last year—abdomen painful on pressure ; urine clear.

Venæsection was tried once—an aperient electuary—calomel with squill and digitalis without benefit : after submitting again to the paracentesis, he left the hospital on the 7th of July.

CASE LXVI.

Anne Cuming, æt. 36, August 4, 1817. Pale and emaciated, with ascites of 2 years date, accompanied with pain and hardness in the right hypochondrium ; cough, frequent pulse, and high coloured urine, with red sediment.

General venæsection was once practised ; blood

was taken also from the abdominal surface by cups, 4 times ; the pain of side was relieved, and the watery accumulation much diminished ; it was then perceived, that the left ovarium was enlarged, and probably tuberculated.

Extract of conium was given with bitters, mild diuretics, and alterative doses of calomel. She left the hospital on the 10th of November, with very little remains of dropsy, but in a very enfeebled and precarious state of health.

CASE XLVII.

Mary Fagan, æt. 24. September 8, 1817. Considerable ascites, attended with pains in the abdomen, and general anasarca ; countenance sunk, pale and yellowish ; pulse frequent and feeble ; urine red ; disease of 8 months duration, ascribed to cold.

A large hard tumor was found in the abdomen, seemingly connected with the ovarium ; this discharged purulent matter from an opening near the umbilicus ; on pressure it spouted out a considerable quantity of foetid pus. After some time, purulent matter was discharged mixed with the stools.

As no hope was entertained in this case, a

treatment merely palliative was followed : she left the hospital, however, on the 3d of October.

CASE LXVIII.

Laurence Maginnis, æt. 56.—August 22, 1817. Ascites has been present four months, anasarca of the legs one week ; pulse frequent and small ; urine high coloured and turbid ; looks pale and emaciated ; no cough or dyspnæa ; disease came on from exposure to cold and wet whilst at work.

He took diuretics and calomel—they made no impression on his disorder ; he left the hospital on the 19th of September.

CASE LXIX.

Rose Smith, æt. 26. November 24, 1817.—considerable ascites has been present for three years ; abdomen painful on pressure ; no anasarca ; catamenia were suppressed antecedent to the dropsical enlargement ; to this and to exposure to cold, her complaint is attributed. Pulse natural—urine scanty and red—bowels slow.

She was subjected to a variety of treatment, before her admission, sometimes with incomplete benefit.

Cupping to the abdominal surface, was tried, followed by blisters; blue pill with diuretics was given. She left the hospital without any change in her symptoms, on the 13th of April, to go to the country.

CASE LXX.

Henry Toole æt. 40. March 30, 1818.—anasarca has been present thirteen weeks, ascites five; abdomen painful on pressure; has a troublesome cough, as well as diarrhæa; tongue brown, urine high coloured and scanty; disease ascribed to cold.

His cough and pains were somewhat mitigated after venæsection twice performed; blue pill with opium and castor oil were directed; but a dysenteric state, combined with hectic symptoms, induced him to leave the hospital on the 13th of April, and go to the country.

CASE LXXI.

George Stockwell, æt. 22, a hatter. April 24, 1818.—legs, thighs, body and face anasarcous, ascites is also present; cough with dyspnæa, livid; lips small, frequent and indistinct pulse; bowels and urine natural. Dropsy is only a fortnight

present ; pectoral symptoms he has had above twelve months ; has been very intemperate and much exposed to the weather ; his pectoral symptoms were somewhat alleviated after venæsection.

His dropsical swellings were removed under a course of mild alterative mercurials with diuretics. His dyspnæa, however, remained, and it was easy to see the heart laboured under some disease of structure, and that the removal of the dropsy would only prove temporary. He left the hospital on the 15th of June, free from dropsy ; but in a very enfeebled and precarious state of health.

Three Cases only remain to be accounted for ; they remained a very short time in the hospital.

CASE LXXII.

William Kane, æt. 17. August 11, 1817.—Ascites and general anasarca have been present three months. No cough ; disease attributed to cold ; he left the hospital in a very few days, being dissatisfied with his accommodation.

CASE LXXIII.

James Gore, æt. 18. September, 4, 1817.—abdomen enormously distended, face pale, urine red and scanty; had been cured of dropsy the preceding winter; attributed his relapse to cold. He left the hospital without taking any medicine.

CASE LXXIV.

John Macabe, æt. 18. January 26, 1818.—General anasarca and ascites of three months duration, with hardness and tenderness of the epigastrium. Six months before he was seized with severe pain in his bowels, and constipation; these continued until the swellings appeared; pulse frequent, urine scanty, skin dry; is pale and emaciated. A blister was directed to the epigastrium with diuretics and blue pill.

He left the hospital on the first of February, without complying with the medical treatment.

THE plan which was proposed at the commencement of this Report, having been so far completed by the recital of all the cases, which occurred

within a given period, it is only requisite that a few practical remarks should be added on the general treatment of dropsical diseases, applicable chiefly to those forms of dropsy which appear in the preceding collection. The observations, already annexed to each case, supersede the necessity of being diffuse; and it is to be recollected that this is not a systematic treatise on dropsy.

In attempting the relief or cure of dropsical patients, it is important to attend to the early or first symptoms; to mark, if possible, the organ which was first attacked, and to ascertain what destructive changes in its organization, are impending. After a dropsical disease had been for some time established, a superficial observer might bestow his attention on parts which were secondarily affected, and the patient even might complain most, where, perhaps, there was least reason; for when the disease has become generally extended, it is then very difficult to calculate on the condition of the principal viscera; it is important, therefore, to be acquainted with early symptoms, and with the order in which they made their appearance, to be able to form a diagnosis as to the organ chiefly engaged in disease, that we may lend our aid chiefly to that quarter.

The stage of the disease is likewise to be con-

sidered ; remedies which might be most suitable to the early attacks, might prove prejudicial at more advanced periods. Generally speaking, therefore, it is impossible to say, what remedies, or what plan of treatment is best calculated to relieve dropsy, so much depends on the time the disease has been in existence.

The question of the prognosis is also a very desirable one to ascertain ; this is well known to depend, in a great measure, on the particular variety of dropsical disease, which may be present.

From the result of the cases recited, it appears that a greater number of dropsies connected with disease of the thoracic viscera, were relieved by medicines, and admitted of cure, than those combined with disorders in the viscera of the abdomen. This may perhaps appear strange when the vital importance of the viscera of the thorax is considered, and when the opinions of others, on this subject, are consulted. Ten of the fifteen patients, examined after death, had either the liver, stomach, or spleen tuberculated ; if any reliance is therefore to be placed in a conclusion drawn from so limited a number, ascites, with scirrhus liver, should be considered a more incurable or fatal form of disease, even than hydrothorax combined with some organic disorder in the cavity of

the chest, provided the organic derangement is at all compatible with the functions of circulation and respiration.

Of the patients cured, a considerably greater portion were affected with disease in the thoracic viscera ; some of them had evidently organic affections of the heart, and yet they appeared to be acted upon by remedies with infinitely more ease, than those where disease had established itself in the cavity of the abdomen.

We should, therefore, not be too confident in our expectations of recovery in ascites, even though the strength be unimpaired, the respiration and the pulse good ; nor, on the other hand, should we despair, where the pulse is feeble and intermitting in hydrothorax, and the breathing difficult and laborious.

The diagnosis to ascertain the organ which has been first affected, and which is chiefly oppressed, is extremely desirable, with a view to the mode of treatment, and the remedies to be selected.

In either general or partial dropsy, the preceding cases warrant us in stating, that whenever the organs of respiration appear to labour, if the strength is not much impaired, and if the

disease is recent, it will be safe to practise general bleeding; still more so, if, in addition, there are symptoms which denote inflammation of any texture in the cavity of the thorax. In some of the cases, a single venæsection appeared to arrest the progress of a recent dropsical disease, in others, a repetition of that practice seemed necessary to ensure success. In such a complication, other remedies appeared to be thrown away, diuretics would not act, and purgatives did not afford any relief until after venæsection had been practised.

After the removal of congestion or of inflammation, should either be present, it is less difficult to regulate the secretions; and perhaps there is less nicety in the selection of remedies than is commonly imagined. Blisters after one or two bleedings, afford relief on the same principle and in the same manner they do in the other pneumonic disorders not complicated with dropsy.

If a chronic, or a subacute inflammatory condition of the viscera in the thorax should maintain a dropsical disease, masked by debility, and not developing itself by its legitimate symptoms; a single bleeding will often tell the true state of the patient, by shewing the quality of the blood.

In incipient dropsy it is generally buffed, but not always so; at all events, a small venæsection, cautiously practised, can do no harm. The strength of the patient, the state of the pulse and respiration, with the presence or absence of local distress, appear to be better foundations to determine whether venæsection should be practised, than the characters of the urine.

In the advanced stages of dropsy if blood is drawn, the serum is milky, and the crassamentum small in quantity, but often cupped, resembling the blood of diuretic patients. This appearance of the blood has been often observed in dropsy connected with tuberculated liver; general venæsection at such a period, or under such circumstances is usually injurious, except recent signs of inflammation have been superadded to those already in existence; in such instances, local detractions of blood by cups* or leeches, practised over the parts where the local pains are felt, and followed by blisters, will frequently remove the dropsical effusion. In recent cases of ascites, when patients are too feeble to bear the lancet, this treatment has often succeeded; it applies more especially to an inflamed state of the peritoneum,

* Vide case xxxvi.

which has been so often observed to precede and accompany dropsy of the abdomen ; after this proceeding, very little inward remedies are required ; mild aperient medicines, to regulate the discharges from the bowels, are quite sufficient after such a preparatory discipline.

The following case from private practice exemplifies this point of practice.

Miss H——, æt. 14 ; a delicate girl, much emaciated, became suddenly affected with ascites, and a tense hardness in the epigastrium ; her pulse 120 ; skin dry ; tongue white ; urine scanty and high coloured with red sediment ; dropsy had subsisted only a fortnight ; it was preceded by chilliness, and came on with thirst, langour and loss of appetite.

Her previous state of health was reported to have been very indifferent ; she had been affected with chorea a year before ; for this she was given cinchona with steel and port wine ; subsequently she often experienced pain in both sides ; blisters had been used with evident relief ; purgatives were repeatedly given without affording any. Her feeble and apparently hectic state forbid the use of the lancet, although it was clear that a chronic

inflammatory state had been long in existence, and that effusion had taken place only within the last fortnight. The following treatment, however, proved successful beyond the most sanguine expectation of the writer of this report.

Twelve leeches were applied to the epigastrium ; ten more to the lower abdomen the following day ; this procedure was repeated four times on alternate days ; a warm bath was directed every third night. The only inward remedies prescribed were two grains of calomel, and a drachm of cream of tartar daily for a week ; the calomel was then omitted, and a draught with infusion of rhubarb and chamomile substituted. In a fortnight the dropsy was gone, the urinary secretion restored, and in three weeks she had already begun to recover her flesh.

In those dropsical affections which are symptomatic of confirmed phthisis, general bleeding almost invariably hurries the fatal event. It is material, however, to be able to discriminate such affections from chronic inflammation of the *pleura, of the bronchia, or of the parenchymatous texture of the lungs ; as in those latter instances venæsection is frequently the means of

* Armstrong on Scarlet Fever, p. 187.

rapidly restoring the patient to health. Some of the cases reported which soonest gave way to treatment were of this description, the swellings having almost immediately disappeared after one or two general bleedings.

Where the liver is concerned, in connection with dropsy, much will depend, whether the disease is one of function, or of structure; if there is reason to suppose the liver in a state of vascular plethora, or venous congestion, its membranes perhaps inflamed, venæsection will expedite the cure and tend to prevent relapses and recurrences of dropsy; still more so, if manifest signs of hepatitis should be present. The more recent the case, the more opportunity there is for general sanguine depletion; in more advanced periods, repeated leechings and cupping, followed by blisters, promise more; purgatives, diuretics and mercurials act with greater advantage after such preliminary treatment, and considerably smaller doses will answer.

If our knowledge of diagnostics, enables us to ascertain those cases of dropsy which are complicated with tuberculated liver, spleen, pancreas or ovarium, it should make us abstain from the use of the lancet, more especially where there is reason to apprehend a general tubercular diathesis;

of which there are instances amongst the cases recorded; general bleeding mostly hastens the doom of the patient; local bleeding is sometimes applicable to such cases, when the peritoneum covering the tuberculated liver, spleen or pancreas becomes inflamed. There is no form of dropsy in which detractions of blood are more useful than those where the peritoneum is inflamed, and where ascites follows; local bleedings after general venæsection, repeated according to the strength of the patient, frequently removes the inflammatory state of this membrane, the vital properties of which have been so well appreciated by Bichat; in truth little is then left after such discipline for the other remedies to accomplish in completing the cure of dropsy.

It is not difficult to distinguish these latter cases from those which attend a tuberculated liver; in dropsy arising from inflamed serous membranes, the pains are superficial, and felt on pressure. Those from scirrhus liver are deeper seated,—the general health more broken, the frame more emaciated, the sediment in the urine of a deeper red. The urine occasionally coagulates on the application of heat in both instances, but not with any uniformity. The causes and manner in which the disease has come on, often shew its true nature. When its attacks are sudden after exposure to cold,

venæsection is generally advisable ; when its approach is more gradual, after abuse in spirituous liquors, there is reason to suspect scirrhus, and the treatment should vary accordingly.

Ascites is not unfrequently the sequel of neglected or ill treated dysentery ; of this there are some instances amongst the cases reported ; under such circumstances the inflammation of the mucous membrane of the intestines, which so often is present in dysentery, has extended to the serous coats of the bowels, and the peritoneum. General venæsection where such conversion of disease is recent, and local depletion by leeches and cupping where it is more chronic, will generally arrest the dropsical effusion ; and if the textures concerned are not too deeply involved in destructive changes, mild mercurials with opium, and gentle purgatives will, for the most part, complete the cure.

The same observations apply to those dropsies which follow the puerperal state. These are almost always connected with an inflamed condition of the peritoneal membranes : general or local bleeding may be employed with more freedom, the more recent the attack. In fact, the puerperal peritonitis, if it should occur in a chronic or subacute form, always terminates in dropsy, unless, as

in its more severe forms, where speedy death or suppuration is the result.

Amenorrhæa is frequently known to be the forerunner of dropsy and as often to occur in complication with it. If sanguineous depletion is early and freely used on the appearance of congestion in any important viscus, dropsical effusion will rarely follow ; and even when it has taken place, an active treatment of this kind will soon make the swellings disappear. This mode of treatment is still more advisable in those instances, where predisposition to disease in the lungs exists. This may be prevented by the timely relief afforded to those organs, which from the suppression of the menstrual discharge may be thrown into a state of sanguine congestion.

There is not much to be inferred from the preceding report, as to the comparative efficacy of digitalis, squill, colchicum, cream of tartar, and other remedies usually employed in dropsical diseases. Each of these has succeeded where the patient was properly prepared for their employment ; but it appears plainly that none of them will prove effectual if they are prescribed too early ; nor can we rely solely on them. No doubt there are cases more especially suited to each of the individual remedies mentioned ; and those who can specify them and lay down rules for

prescribing them with effect, will improve the practice in dropsy. It has so happened that a combination of squill and digitalis was directed oftener in the cases which form this collection than any diuretic; a union of these remedies has succeeded so well in the hands of the reporter, where either of them separately had made no impression.

✓ Colchicum has been found a very useful and active diuretic where digitalis or squill had disagreed. It is necessary, however, that the remedy should be prepared from roots taken up early in spring* as it is only at that time they possess their true remedial activity. This point was put to the test of experiment by the writer of this paper in Steevens' hospital in the year 1806, previous to the publication of the Dublin Pharmacopeia. The acetum colchici made from roots taken up in February presented a striking diuretic influence in every instance where it was employed; whereas that prepared in August and September, from roots out of the same garden† was perfectly inert and devoid of every medical power.

* Ph. Dub. 1807. p. 19.

† The colchicum roots were supplied by Dr. Robt. Perceval who formerly distinguished himself as Professor of Chemistry, in the University of Dublin; he suggested the comparative experiment.

Elaeterium was not directed in any of the cases which form this collection. It may be observed here, that the powdered leaves or the fruit of the plant possess all the sensible qualities of the drug, although they are not near so strong as the official extractive form; they are frequently employed in Steevens' hospital, sometimes alone in small doses, and often in conjunction with cream of tartar; in many instances the powdered leaf of elaterium proved an useful adjuvant in depleting dropsical patients.

The preparation of the fecula or extract according to the pharmaceutic form, is very troublesome and expensive; it requires an enormous number of the cucumbers to prepare a single drachm of the medicine. Should the powder be found on trial to answer the character given here, it may be considered an acquisition to the *Materia Medica*, especially for hospital practice, where œconomic arrangements are often necessary.

Elaeterium will be found to answer better in those dropsies connected with disease in the serous membranes of the abdomen, where there is torpor of the mucous coats; but in many delicate and irritable conditions of the mucous membranes of the stomach and intestines, it is less appropriate and often prejudicial.

I need not state, how very general the use of mercury has become in this class of diseases. In the greater number of incipient dropsies, I believe it not only fails, but often aggravates the symptoms, by adding to the excitement, and increasing the inflammatory disposition. But in more advanced periods, and even earlier, after timely venæsection and other preparatory expedients, mercury proves a remedial agent of no inconsiderable efficacy. Of this point of practice, however, there are many illustrations in the preceding collection of cases.

As the subject of dropsy is still under investigation, an attempt will be made to elucidate the precise power of each of the diuretics most used in practice, and to connect their employment, if possible, with the appearances of the urine, or any other symptoms of which advantage may be taken. These matters may perhaps be the subject of a future report.

So far as can be collected from the preceding histories, a selection of the diuretics to be employed, appears a matter of less consequence than might have been expected ; where the medical treatment was directed to prevent or remove those tendencies to organic changes in structure, which have been observed to precede dropsical effusion,

little then was left for the officinal diuretics to accomplish.

The plan of treatment where early venæsection in dropsical diseases is recommended, must appear very abhorrent to those who were accustomed to consider the dropsical or serous diathesis as the result of atony or weakness. Relaxation* in the exhalant system is considered one of the general causes of dropsy, according to Dr. Cullen, and blood-letting† one of those practical measures which often gives rise to this relaxed state. Whereas those who look to the diseased appearances in the different cavities, are more disposed to conclude dropsy as associated with an excited condition of the exhalants pressed by the vis á tergo of the capillaries, and oozing out their fluids more especially on the serous membranes, which are so constructed as not to allow the same distention of their vessels which other textures permit.

The name of dropsy, and the notions of debility and relaxation have long tied up the hands of practitioners; it is time that these delusive theories should give place to facts and experiments, and to a reasoning founded on them. It would be well therefore, in forming our plans of treat-

* Cullen, first lines, MDCLVI.

† Cullen, first lines, MDCLX.

ment, to lose sight of the name of dropsy, and take measures to prevent those organic changes, which we are apprehensive are going on. Nosology in giving systematic names to diseases, has facilitated the study of medicine, but it inclines us to dwell too much on symptoms, and too little on the real pathological state.

APPENDIX.

ON presenting this report to the Association, some of the members of that body have, with an appearance of reason, objected, that less attention had been paid to the state of the urine, than should have been consistent with the plan of the report. In a considerable number of the cases, the urine was tried by the test of heat, as to its power of coagulating; but the proportion of instances where it took place was very inconsiderable compared with those which did not coagulate; nor was I able to connect those cases where inflammatory symptoms existed with the presence of coagulable urine. In many of those which appeared to me to require the prompt use of the lancet, the urine did not coagulate. Under this impression, I ceased to draw any practical inference from that appear

ance, and as the memorandum was lost which contained those trials, I discontinued making any further experiments on the subject.

Since this paper was read, however, I have been enabled to report forty cases where the urine has been tried by the test of heat, the result of which is given in the annexed tabular form.

The first of the tables gives a report of cases which occurred in Steevens' hospital since the 10th of July; the second is taken from the Whitworth Hospital, annexed to the House of Industry, consisting mostly of patients who became dropsical after fever; even amongst this description, the instances, in which the urine coagulated by heat, are very few compared with the greater number, where no such appearance was observed.*

* Dr. E. Percival, who was my predecessor, as one of the physicians to the house of industry, mentions that the result of his experience on this subject fully coincides with mine. After he had tried dropsical urine by the test of coagulation in a number of cases, he at length lost all confidence in the test, either as an invariable evidence of inflammation, or as a guide of practice. His statement is likewise confirmed by the additional testimony of Dr. Reid, who acted as clinical clerk at the house of Industry, at the time those experiments were made. It is peculiarly satisfactory to me, to find the observations of these two friends of mine in consonance with my own.

2d table, in my 23 Jan. 5. 1829 No. 2
No. 1. in my 2. 7 Dr. Blackall 1st table: see ...

1st table, in my 23 Jan. 22. 1830 No. 2
No. 1. in my 2. 7 Dr. Blackall 1st table: see ...

2d table, in my 23 Jan. 22. 1830 No. 2
No. 1. in my 2. 7 Dr. Blackall 1st table: see ...

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No. 1. in my 2. 7 Dr. Blackall 1st table: see ...

CASES AND DISSECTIONS
ILLUSTRATIVE OF
DISEASE OF THE BRAIN.

BY
SAMUEL BLACK, M. D. M. R. I. A.

NEW Y,

LICENTIATE OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS, &c. &c.

Read 3d August, 1818.

I AM not aware that the following records of diseases and dissections of the brain, will communicate any thing very new or very uncommon; but, I consider it as a principle admirably good in itself, and in its application, promotive of the interests of science and of humanity, that every professional man should contribute his quota towards a general fund, from which we may expect to derive accurate histories of disease, and faithful reports of diseased appearances after death. And surely, if there be any organ of the body, whose structure

in health and in disease, is more entitled to study and investigation than another, the brain is that organ; for although it may be true, to a certain extent, that the anatomist cannot, by his knife, indicate diversity of organic structure in the brains of the "lunatic, the lover and the poet," and those of the ordinary race of mortals, yet it is certain, that by the healthy exercise of the functions of this organ are formed the poet, the sage and the hero; and gifted mortals are conducted in the paths of fame, of science and of glory; and that when these same functions become diseased, the unhappy wretch is depressed to that level which renders the extinction of his being a blessing.

CASE I.

Chronic Inflammation of the Dura Mater.

Mr. J. L. W. (aged nearly twenty-eight): he returned to Ireland from Liverpool, where he had resided for some time, on the 24th 'December, 1814. He then complained of a pain in his back, which he said, had severely annoyed him for some considerable time. The only disease to which he had been subject for several years, was ophthalmia, and he was a temperate liver. He did not ask any advice, with respect to the pain of his back; neither did he adopt any mea-

asures for its removal. In the summer of 1815 he removed to the sea-side, entertaining a hope that sea-bathing would be effectual for that purpose. This was his own idea. After having bathed three times at short intervals, he found the pain of his back removed, but he was seized with severe head-achs. He now thought it necessary to ask my advice, when I strictly enjoined him to desist from sea-bathing, to use a saline laxative every morning for some time, to keep quiet, and confine himself to a low diet. Perhaps, this is the proper place to mention, that I think it highly probable he must at this time have laboured under considerable anxiety of mind, from the unprosperous state of his affairs. As the season changed, the head-achs became more severe, and early in November, they were very distressing; still he continued to go about, and to attend to his mercantile concerns; but an unusual flippancy in conversation, and some extravagance in conduct, indicated a certain degree of mental derangement. A diffused tumour was now observed on the os frontis, near its junction with the os parietale, in a direction above the right orbit. The tumour was of the breadth of a shilling, painful on pressure, but not exquisitely so. I considered it to be a thickening of the membrane investing the cranium. Early in December, at a time when the

weather was severe, and the ground covered with snow, he set out in order to go to some distance on some mercantile pursuit, which he alledged to be of importance, but which appeared in a light so different to his family and relatives, that one of them followed him and brought him back, after he had proceeded seven miles. In the course of that night, I was called up in a great hurry to see him, and when I reached his house I found him stretched on the carpet in a violent convulsion. It was succeeded by stupor, from which he recovered in the course of a few hours, but he continued obviously deranged in mind for several days. When his mind cooled a little, he complained bitterly of the severity of the head-ach. Great depletion both by blood-letting and purging, was resorted to; the tumour on the frontal bone was bled repeatedly by leeches, and a purulent discharge from it was kept up for some time. In consequence of these measures, the tumour disappeared, but the head-achs continued with great severity, and after some time, (about three weeks) he had a second convulsion. The spring of 1816 was passed under much suffering from head-achs. About this time, my opportunity of observing the disease and marking its progress, was interrupted for a considerable time; but I am assured by a member of his family, that in the month of Octo-

ber, the tumour on the frontal bone again appeared, and that it receded in consequence of the same applications that had before been made to it.

Early in the month of April, 1817, he again consulted me on account of head-ach, derangement of stomach; much torpor of the bowels, langor, listlessness, sleeplessness and emaciation; pulse fluctuating between 80 and 90, and feeble. In the month of May, he became altogether deranged; for some time, he continued to write almost incessantly day and night, alledging that he was engaged in affairs of the greatest consequence to the state, and making communications to Lord Castlereagh which would enable him with great ease to pay off the national debt. In less than a month, this fit of delirium ceased. He passed the summer, complaining much of head-ach, and had at intervals two or three attacks of convulsions. In the month of March last, these became very frequent and severe; he was extremely languid and debilitated, vomited occasionally, and the bowels were extremely refractory; though occasionally chilly, he had not either now, or at any period of his illness, any distinct rigor. He once observed that he was sensible of the failure of his intellectual faculties, and expressed the greatest apprehension of becoming again deranged. Some degree of paralysis of the

left side was observed. On Friday, the 26th of June, he was attacked by severe convulsions, succeeded by stupor and insensibility, which continued to recur, at short intervals, till Saturday the 4th July, when he expired.

The Dissection.

I need scarcely observe that my anxiety to examine the state of the brain and its membranes was very great ; and that opportunity being conceded, the examination was entered on ten hours after death.

When the scalp was turned back, the pericranium, at that part of the frontal bone where the tumour had formerly shown itself, had an appearance obviously morbid, and entirely different from that of the same membrane in other parts. It was of a dull, lurid, brownish hue, but not much thickened ; it adhered very strongly to the cranium ; when the skull was sawed through, and we attempted to remove the sawed part, the adhesion of the dura mater, particularly at that part immediately subjacent to the diseased appearance above mentioned, was uncommonly firm and difficult to be overcome. The Surgeon, Mr. Harshaw, used the handle of his scalpel in order to detach the membrane from the bone, which being accom-

plished, a small quantity of pus, perhaps about half an ounce, was observed to flow ; this must have been occasioned by a rupture of the membrane ; for no pus was observed on the outside of it ; the vessels passing between the dura mater and cranium were unusually large and numerous ; the dura mater, to the extent of nearly a six shilling piece, was fully five times as thick as the same membrane in other places ; on its inner surface were three distinct abscesses, each of them broader than a five-penny piece, but rather superficial. On the inner surface of the membrane, to a considerable extent, and surrounding that condensed portion of it where these little abscesses were situated, was a distinct layer of coaguable lymph, as thick as a wafer ; I imagine this effused lymph was in progress towards becoming organized, and would (had life been protracted for some time,) have become condensed and thickened membrane. This layer of coagulable lymph, adhering to the dura mater in a state of inflammation, is stated by Dr. Baillie to be "very uncommon." The supuration did not extend into the brain, but that organ, to the size perhaps of an orange, immediately beneath the diseased membrane, had become a soft and pulpy mass, in which scarcely any trace of organic structure was discoverable ; in colour it resembled a custard ; in consistence, it was thicker. There was an effusion of serum

into the ventricles, which we calculated to exceed four ounces.

Observations.

1st.—This disease must be considered as a chronic inflammation of the dura mater. The other appearances stated were, I conceive, mere consequences. The length of time which the disease took to run its course (three years) is remarkable ; there is some obscurity, not unattended with difficulty, in assigning the remote causes of it. When I first saw the tumour on the forehead, the idea of lues occurred to my mind : but he assured me, in the most unequivocal manner, that he had never suffered by that disease in any shape whatever ; he had never been in a warm climate, had never used mercury to any extent, nor ever received any external injury on the head ; how far mental exertion on subjects of trade, with distress of mind consequent on the unsuccessful issue of those exertions, might contribute to produce the recorded effects, I must leave to the decision of those who have had more extensive opportunities of observation.

If we could suppose that the early pain of the back, which seemed to be removed by sea-bathing, had its seat in, or was any affection of the theca

of the spinal marrow, which is an elongation of the dura mater, the translation of disease from one part of the membrane to another, would be sufficiently intelligible.

2d.—When in the early part of this disease, I first observed the rising on the frontal bone, the analogy which I thought I discerned between this case and several of those related by Sir Everard Home, in the 3d volume of the Transactions of a Society for the Improvement of Medical and Surgical Knowledge, struck me very forcibly ; and I entertained an idea that the remedy there recommended, namely, the free division of the pericranium by the scalpel at the tumefied part, might be resorted to with advantage. This, however, was a point on which I would not decide without surgical advice and co-operation. Some time passed away before he was visited by an able and well-informed young surgeon, to whom I explained my ideas. But by this time, the external tumour had receded in consequence of the topical applications made to it. The decision, therefore, of the surgeon was, (and I think it was perfectly correct) that as the indications of disease in the external membrane, though lately manifest, had ceased to appear, he would not be warranted in proceeding to divide a membrane (apparently) no longer in a state of disease. When, however, I

reflect that the mode adopted to cure the external symptom failed finally to cure the internal disease, and further, that this tumefaction showed itself a second time after a relapse of ten months, I feel some regret that this surgical remedy was not resorted to at that period, when it was indicated, namely before topical applications were made to the tumour. Mr. Pott, I believe, first directed the attention of surgeons to the curious and hitherto little observed propagation of disease from the external to the internal membrane of the skull; and Sir Everard Home, in the paper already referred to, points out and illustrates a principle of which all modern pathologists are perfectly aware, viz. the wonderful and strongly marked sympathy of action existing between these two membranes, and further, that morbid actions in the one, the internal may be greatly relieved by a mere solution of continuity of the other, whether that may be supposed to act by the removal of tension and the depletion of vessels, or by some more recondite and less understood *sympathy*. Nay, if this kind of practice had been carried to a still greater extent, and the trephine had been applied immediately over the diseased membrane, as was done in the case of Mary Loudon, detailed by the Surgeon General, (Dublin Hospital reports,) I cannot pretend to say what the result might have been, but it appears to me that such practice would have been

rational and warranted by the soundest principles. At the same time, it must be acknowledged that these views arise rather more out of the circumstances ascertained after death than out of the phenomena existing during life : for the external indications of disease, though palpable and obvious, and even recurring a second time after an interval of ten months, were yet *mutable and temporary*.

CASE II.

If the following case possess any particular interest, that, I conceive, arises from its applicability to elucidate the manner in which morbid actions may be excited in the brain *by sympathy*.

June 10th, 1807.—Miss E. B. aged nearly six years, about five days ago was very drowsy and complained much of head-ach. As she was known to have worms within the last four months, her mother gave her a dose of Bennett's powders, which purged her three times the next day. She was a healthy, florid, lively child previous to this time ; but the drowsiness has now continued for several days, and her head-ach is occasionally so severe, that she begs to have her head held. She refers the seat of pain chiefly to the left parietal bone.

About three weeks ago, the child happened to go into the kitchen, when a large piece of bacon fell from some height and struck her on that part of the head of which she now complains. The servants thought it necessary to conceal this circumstance from her mother ; but one of the maids communicated to me in a kind of confidence that there was such a bump on the part, (that was her expression ;) that she applied a cold smoothing iron, and afterwards brown paper soaked in vinegar, to the part, in order to abate the swelling, in consequence of which, it in a great measure subsided in 24 hours. Within the last three days, the child has vomited repeatedly. The pupils contract in a bright light, but in the shade they are dilated. Pulse about 94 and very irregular. It is unnecessary to detail the particular treatment resorted to in this case. Its progress was marked by heat of skin, intense head-ach, vomiting, stridor dentium, delirium, and convulsions ; and it terminated fatally on the 19th day of the month.

The Dissection.

The head was opened in my presence, six hours after death, by the two gentlemen whose names are affixed ; neither the teguments nor the pericranium exhibited any diseased appearance at that part on which the injury had been received ; the

scalp, pericranium and skull were perfectly sound and firmly connected at every part. The dura mater did not exhibit the slightest mark of injury or disease; on dissecting off the dura mater, (leaving it however entire at the part where it forms the longitudinal sinus,) the superficial veins of the brain appeared extremely turgid and distended, which circumstance was particularly striking at their entrance into the longitudinal sinus. On the superior and middle part of the left hemisphere, a small deposition of coagulable lymph was discovered between the pia mater and the tunica arachnoidea. On dissecting down to the centrum ovale, the lateral ventricles were found to contain a considerable quantity of serum; little or none was found in the third ventricle, but a considerable quantity in the fourth. The whole of the effused fluid amounted (we suppose) to two ounces; the abdominal viscera were sound,

Signed,

ROBERT SALMOND, *Staff surgeon.*

GEORGE ADAMS, *Assistant surgeon,*

21st. Regiment,

Observations.

I presume little doubt can be entertained that the external violence mentioned, was the exciting

cause of this disease ; and if that be the case, it is remarkable that an external injury, of no violent kind, and merely exciting such tumefaction of the integuments of the skull, as by the aid of certain sedative applications, disappeared within twenty-four hours, should be capable of exciting such an increased action in the organ of the brain itself, as terminated in serous effusion. Two other circumstances appear to me deserving of notice viz. that this should happen without the intervening membrane of the dura mater being drawn into morbid sympathy ; and secondly, that indications of the existence of inflammatory action, which in all probability was of the sympathetic kind, should be discovered in the more interior membrane.

Would the result have been better, if the idiopathic action had been suffered to exhaust itself, without any sedative or repelling applications having been made to the seat of it ?

CASE III.

The following case appears to me important in two points of view, viz. first it throws light upon the nature of one very remarkable morbid sympathy ; and secondly, it shows that a disease, in reality sympathetic, might readily be mistaken for an original one.

Master Charles G——n, aged 9 years, March 11th, 1811; eight days ago, he travelled fourteen miles on a jaunting car; the day was very cold; when he got home, he complained of severe head-ach, and almost instantly fell asleep, lying across a chair; he was carried to bed for the night in a state bordering on insensibility; next day, the drowsiness was great, and he complained much of head-ach, when he could be brought to speak at all. On inquiry, I found that the head-ach had been of several days continuance, and that he had been very somnolent, vomiting frequently; pulse 110, strong and full; skin hot; tongue white and thickly crusted; some tenderness of the right hypochondrium on pressure; complains of some difficulty of swallowing; bowels have been extremely costive for some time past. He lies in bed in a profound sleep, from which it is difficult to rouse him: when roused, he did not appear to notice any thing, did not speak willingly, but said that the candle hurt his eyes.

This boy was a picture of health and strength; he never had any disease except a very inveterate cutaneous eruption some years ago; this proved very obstinate, lasted a long time, and was dry and scaly.

The nature of this case renders it necessary to detail the treatment.

R. Extract : colocynth : comp : ʒi.

Sub-muriat : hydrarg : gr. xv.

Ft. massa in pilulas quindecim dividenda. Sumat duas omni bihorio donec alvus dejecerit.

12th. All the pills have been taken, together with a considerable quantity of the infusum sennæ, without producing any effect on the bowels. An enema this morning produced one stool, very black and costive, and intolerably foetid. Frequent stridor dentium ; complains much of a candle offending his eyes ; stupor very great ; pulse 80, strong but variable.

Perstet uti pilulis, addito pulvere Jacobi ; repr. etiam infusum et enemata.

Adhibr. emplastrum cantharidis capillitio abraso.

13th.—Pulse 96, strong and full. After having taken ten more of the pills with infusion of senna, he had two enormously large, very black and very foetid stools. During the shaving of his head, and the putting on of the blister, he was so stupid and insensible as to make no inquiries, nor did he take the smallest notice of what was going on. When the bowels began to act, and the blister to rise, these appearances began to abate, and have

at present considerably subsided. Eyes not offended by a candle. Blister discharging very freely.

Continr. pilulæ et infusum.

14th.—Six large stools since last report, which are more natural, latterly, in respect of colour and fœtor. Pulse 90, but neither so full, nor so strong as yesterday. The boy has within the last two hours been chearful and talkative, and shown some inclination for food.

16th.—Convalescent.

Observations.

This case appears to me important, both in a pathological and a practical point of view. It seems to me that the original seat of disease was in the digestive organs, and that the great affection of the brain, amounting nearly to coma, was dependent on the sympathy existing between these remote parts of the human machine. When the disease in the primæ viæ was overcome, the healthy function of the brain was restored. The blister, no doubt, appeared instrumental towards this effect. Indeed, I have little doubt, that a state of the brain was induced; which, though sympathetic, might, if neglected, have led to all

the evil consequences of idiopathic disease ; and it appears to me highly probable, that this case would, under neglect or mismanagement, have terminated by a serous effusion into some of the cavities of the brain. Nay, I will go one step farther, by declaring my firm conviction, that many cases of hydrocephalus are induced by a morbid condition of the chylopoietic viscera, and still more especially of the liver.

CASE IV.

The inference which I have just drawn, will, I apprehend, be illustrated and corroborated by the following case and dissection.

Miss Margaret G—y, (aged 4 years) October 12, 1807, has always been a weakly, delicate, and puny child, with irregular bowels and a tumid abdomen. At present, the cervical glands are enlarged and indurated. Some months since, she was observed to pass ascarides frequently. About twelve days ago, it was observed that she had lost her appetite and spirits, and became very heavy and drowsy. Four days after, she began to vomit occasionally, and the vomiting has recurred at least twice daily since that time. She was costive from the beginning, and the abdomen prominent and hard.

Her father observed, that when the bowels were opened by injection, the stench was dreadful; she has complained much of her head, but has not (to the observation of those around her) shown any intolerance of light, nor screamed out of her sleep. Three days ago, her father observed the pulse to be 54: to day, it is extremely irregular both in frequency and strength, fluctuating between 80 and 100; Face flushed; skin hot; much stupor and insensibility, so that the child does not attempt to answer any question whatever, and on being carried into the open air, no object excites the smallest attention or interest; breath extremely foetid.

It appears quite unnecessary to detail the treatment or the subsequent symptoms. The child died on the 15th day of the month, and her father, a man of good sense and benevolent views, had a wish that I should ascertain the morbid appearances.

The Dissection.

The examination took place seven hours after death.

On placing the head in the proper position on the table, a quantity of a foetid fluid, exceeding two ounces, ran from the nostrils, it did not ap-

pear to be pus, neither was it blood; it resembled the grounds of coffee more than any thing else.

When the top of the cranium was removed, the vessels of the dura mater were very large and turgid; the vessels on the surface of the brain, and more especially between its convolutions, were greatly distended with blood. On turning aside the falx, and cutting down in a cautious manner to the corpus callosum, we found that every one of the ventricles, examined in succession, one after the other, was distended with a clear transparent serum, which being saved in a saucer, the whole quantity exceeded three ounces. The membrane lining the ventricles was extremely vascular, and exhibited the appearance of a beautiful net work, such as would be formed by artificial injection with a coloured material.

In the abdomen, the liver was unusually large; and the mesenteric glands very generally in a state of enlargement and induration; three or four of them contained a cheesy or curdy matter.

Observation.

The only observation I have to make on this case, has been in some measure anticipated. I conceive that the first link of the morbid catination was in the chylopoietic viscera; the last, in the brain.

CASE V.

The following case appears to me both curious and interesting. It is an instance of a disease which, fortunately, we do not often witness. If we must give it a "local habitation and a name," we must, I think, refer it to the genus apoplexia of Dr. Cullen: and it belongs, in his arrangement, to the species "venenata." It is the "apoplexia temulenta" of Sauvages.

April 22, 1810.—Master E. C——, aged nine years, a fine healthy, lively boy, left his father's house, on the evening of Easter Sunday, in company with the servants, who were going to a meeting of the common people known by the name of a Patron. At this place of vulgar dissipation and amusement, the servants unfortunately gave the boy some whiskey; how much is uncertain; but from all the information I could gain, the quantity was by no means such as could have led to any apprehension of effects so disastrous. He was, however, soon in such a state of intoxication, that it became necessary to carry him home. On the way, he vomited; and when he arrived at home, he was put to bed. In the course of the night, his parents became alarmed at his situation, and at 5 o'clock on Monday morning,

I was called upon to see him. I found him in a high fever, the animal heat very great, the countenance much flushed, pulse 138, strong and full, and the heart acting most violently. He was in a state of the most complete stupor and insensibility, and had not spoken at all. As there was no power of swallowing, it was vain to think of any internal medicine. I had him taken out of bed, and brought into a large, cool, and airy room, where he was placed on a woman's knee, and the head kept completely erect; the limbs were wrapped in flannel; the entire head, neck, breast and upper part of the trunk were sponged with a mixture of cold water and vinegar; and this ablution was several times repeated till the animal heat was brought down towards the natural standard. This effect was brought about in the course of an hour. At the expiration of that time, the subsultus tendinum and violent startings, which had threatened general convulsions, had ceased; the action of the heart was much moderated, and the pulse had sunk to 108. I wished him, if possible, to swallow cold water, and a mug containing it was held to his lips; he did not swallow, but caught the vessel, containing the water, so firmly between his teeth, with a kind of convulsive effort, that when the vessel was withdrawn, a piece of it was firmly retained between his teeth. However, in the course of

another hour, he began to swallow cold water, which was highly grateful to him. Purgative enemata had been administered with some effect. About noon he made an attempt to speak a word or two, the tendency of which, as far as could be collected, seemed to be to complain of head-ach. Twelve leeches were now applied to the forehead and temples which bled copiously. In the course of the evening, he drank freely of whey and lemonade; about ten o'clock at night, he was attacked by a slight convulsion, which recurred several times during the night. At ten next morning, the stupor was very great; the pulse very irregular, but of a preternatural slowness, varying between 70 and 80. The pupils were dilated. An additional number of leeches was applied, a very large blister over the entire scalp; three grains of calomel were directed every hour till free evacuations were procured, and to be assisted by the infusum sennæ, if necessary. During the day the convulsions increased in frequency and violence; and at 10 o'clock in the evening, that is about 51 hours after he had swallowed the whiskey, he expired.

I lament exceedingly that I had not an opportunity of examining the state of the brain. I should have considered such examination of the highest

interest. What was the immediate cause of death ? The whiskey did not kill by its first and direct operation the nervous system. In that case, the effects would have been more immediate. For the same reason, I cannot refer the cause of death to the sympathy existing between the stomach and the brain, or between the sanguiferous and nervous symptoms :—that *sympathy* of which we have so often occasion to speak, and of which we cannot think without being reminded of the imperfection of our knowledge and the limitation of our views ! I believe that in the bodies of those who have been killed by the narcotic poisons, the vessels of the brain are found gorged and distended with blood. On reviewing the present case, I think there is evidence of pressure on the brain, and I am inclined to think that, short as the time was, effusion had taken place. Assuredly, in many instances, we observe the highest vascular action and a degree of serous effusion to go almost hand in hand, or at least, that the latter follows the former with a very rapid pace ; and common phlegmon is often accompanied by œdema. Would the opening of the temporal artery of the jugular vein have been advisable ? Darwin says, that many persons in drunken apoplexy have died after copious venæsection, and he supposes, in consequence of it.

CASES 6th, 7th, 8th, & 9th.

I shall take the liberty of subjoining the four following dissections of persons who died of typhus fever in our fever hospital. I think they may be introduced into this paper with some propriety, as the chief morbid appearances were found in the brain.

CASE I.

John Cluggish, (aged about 50) was brought into the hospital in August, 1817, labouring under the usual symptoms of typhus fever. This creature was of a dwarfish size, not exceeding four feet in height. His bones were distorted from his infancy. His frame was extremely robust and muscular, and his head uncommonly large. He had numerous petechiæ, and much head-ach and delirium. He remained in the hospital in all nine weeks, his fever having proved tedious and severe, but during nearly six of those weeks, he was considered as a convalescent from fever. He continued, however, extremely dull, stupid and heavy, altogether deaf, incapable of being roused by any thing, and labouring under a high degree of debility. His appetite was keen, even to voracity.—

During the last six or seven weeks of his life, there was a very copious foetid feculent discharge from both ears ; and during the fever, a parotid swelling appeared on each side, which was brought forward by warm poultices. The abscess on each side broke and discharged purulent matter most copiously and for a considerable time. Ten days before his death, his feet and legs were highly oedematous, and he had great dyspnœa on the smallest exertion : and about this time a large quantity of pus was discharged from the lungs by coughing. He died very suddenly and unexpectedly.

The Dissection.

On opening the cranium, a quantity of fluid, amounting to five or six ounces, and which seemed to be a mixture of pus and serum, was found on the outside of the dura matter. Between the hemispheres of the brain, on each side of the falx was a large quantity of thick purulent matter. In the ventricles was a fluid exceeding four ounces, and which seemed to be a mixture of pus and serum. The whole substance of the brain was soft and pulpy, and seemed dissolved into a semi-purulent mass, retaining very faint traces of organization.

In the thorax, the lungs appeared beset by nu-

merous tubercles, many of which had suppurated. In the pericardium was an effusion of serum to the amount of eight ounces. The apex of the heart was surrounded, to some extent, by a layer of coagulated lymph.

In the abdominal viscera, there was not any thing particularly deserving of notice.

CASE II.

Thomas Dornan, aged 24, a stout, active, muscular young man, was admitted into the hospital on the 14th day of October, 1817, labouring under the prevailing epidemic. As far as it was practicable to ascertain the fact, this seemed to be the 14th day of fever. For the last two days he was considered as tending towards recovery ; but died very suddenly on the 20th of the month, of what the nurses called *a fit*. But I could not learn that there was any convulsion. I saw the body opened four hours after death.

The Dissection.

When the cranium was opened, the dura mater appeared to have very numerous and very large vessels running on it ; and when this membrane was laid aside, the vessels of the pia mater, where

it enters between the convolutions of the cerebrum, were unusually large and turgid, many of them appearing as thick as common writing quills.— There were general appearances of increased vascularity through the entire substance of the brain. The membrane lining the ventricles appeared like a crimson net-work ; and there was an effusion of a thin and clear fluid into the lateral ventricles, exceeding in quantity an ounce and a half. The thoracic viscera appeared sound ; but there was an effusion into the pericardium of a colourless thin fluid to the amount of two ounces. The abdominal viscera were remarkably sound and of a healthy appearance.

CASE III.

Betty Rourke, aged 34, married, and the mother of some children, died in the hospital on the 15th of November, being the 14th or 15th day of fever. She was covered with petechiæ. Her chief complaint for the last five days had been pain of the stomach and frequent vomiting.

The Dissection.

The body was opened five hours after death, while it was still warm, so that the cavities, when

opened, exhaled a sensible vapour. The thoracic and abdominal viscera appeared remarkably sound ; but the mucous coat of the stomach appeared highly vascular and inflamed ; the small vessels appearing as if drawn by a pencil dipped in vermillion ; the mucous coat of the duodenum exhibited a similar appearance ; and the external or peritoneal coat, in one part, of the breadth of a shilling, had a livid, purplish appearance, the vessels of the part being extremely turgid and much distended. On opening the cranium, the dura mater shewed obvious marks of increased vascularity ; and when that membrane was divided, some serum flowed out, which appeared to have been situated between the membrane and the brain. The vessels of the brain itself appeared remarkably large and turgid, and the ventricles contained a quantity of clear serum to the amount of four ounces.

CASE IV.

John Devine, aged 22. This stout, muscular, robust young man, was admitted into the hospital on the 12th December, 1817, that being the 8th or 9th day of the fever ; he was covered with petechiæ, and died four days after admission. The history of his case, previous to his being

brought to the hospital, I had no means of learning ; but since he came in, his chief complaint was of head-ach ; the eyes were muddy and greatly suffused ; and for thirty-six hours previous to his death, he was in a state of high delirium ; about an hour before he died, he got out of bed, walked about the ward, and made some observations that appeared tolerably rational ; on returning to his bed, he expired almost instantaneously, such an event being altogether unexpected by the attendants.

The Dissection.

The body was opened ten hours after death by Mr. Millar. When the head was opened and the dura mater turned aside, the minute vessels running on the surface of the pia mater were more numerous than I had ever, in any instance, seen them before ; and the larger vessels running between the convolutions of the brain, appeared remarkably tense, turgid and distended with blood of a purplish hue ; on cutting down to the corpus callosum, we observed a purplish spot, nearly as broad as a tenpenny piece, which suggested to me the idea of gangrene or rupture, but on the strictest investigation, neither one nor the other was present ; the veins however seemed distended to a degree just short of rupture. There was little

or no effusion into the lateral ventricles. On removing the tentorium, the small arteries running on the surface of the cerebellum appeared to form a beautiful net-work, which suggested the idea of a painting made with a pencil charged with vermillion. The sinuses in general seemed as if stretched to the utmost degree of distention, that could exist without rupture; on the whole, though we discovered neither rupture nor effusion, all the medical gentlemen present concurred in thinking that they had never seen a case exhibiting more decisive marks of high excitement, and strong vascular action existing throughout the entire organ of the brain.

The other cavities exhibited sound viscera, and did not show any thing peculiarly deserving of notice.

Observations.

It will scarcely be imagined that it is my intention to draw any general conclusions, with respect either to the nature or treatment of fever from premises so very limited: and indeed any discussion on these subjects would be here misplaced. But I do not imagine there can be any impropriety in one or two observations, strictly

deducible from the appearances which these dissections exhibit.

There is no question connected with the treatment of fever, of more importance than that which regards the administration of wine and spirits ; nor is there any part of the treatment in which I apprehend greater abuses have been committed. Surely if the physician should observe, in a case of fever, such symptoms as would indicate a state of the sensorium at all analogous to what these dissections discover, he would not think of prescribing wine or alcohol. On the contrary, I should think that early depletion and an antiphlogistic regimen would be the remedies best calculated to obviate the occurrence of such appearances. If I may be allowed to appeal to my own personal experience, it would tend to support the opinion here delivered. In many instances of the advanced stage of fever, I have seen profound coma set in ; and this I think is uniformly accompanied with a pulse depressed, feeble and increasing in frequency. Under such circumstances, it has often been my fate to see wine or alcohol resorted to, and freely administered under the idea of supporting and maintaining the strength of the circulation ; but *very rarely*, as far as my recollection serves me, with any benefi-

cial result. The reason I conceive to be, that this depressed and weakened action of the heart and arteries is connected with a state of the sensorium for which wine is not a remedy. Let it, however, be remembered, that it is the indiscriminate use of wine against which I enter my protest ; and this is the error into which the inexperienced or routine practitioner is most apt to slide. I freely acknowledge, however, that in some cases of fever, wine may be administered with advantage.— But as this is a point on which it is impossible there can be too much precision or too much accuracy, I shall briefly state the circumstances under which, according to my views, wine is objectionable or pernicious ; and secondly those under which it may be admissible or expedient. It is likely to be pernicious,

1st. Where there is strong vascular action.

2nd. Where the animal heat is above the natural standard, especially if accompanied with a dry burning skin.

3rd. Where there is much affection of the sensorium, more especially much coma, with a pulse increasing in frequency.

4th. Where there are marks of local congestion in any organ.

5th. Where there is a dry, dirty, black, or brownish tongue.

On the contrary, wine is likely to be expedient or useful where,

1st. There is a weak action of the vascular system, not depending on an oppressed state of the brain.

2nd. Where the sensorium in the advanced stages of fever remains tolerably free.

3rd. Where the animal heat is below, or not exceeding the natural standard, the skin and bowels being at the same time open.

4th. When there is a remission of fever, and the tongue is beginning to become clean and moist.

5th. When there is much exhaustion of the vis vitæ, either from the long continuance of fever, from the prevalence of previous disease, from a weakly constitution, or an advanced period of life :

Cum gelidus, tardante senecta,
Sanguis hebet, frigentque effœtæ in corpore vires.

Newry, July 18th, 1818.

CASE OF
INFLAMMATION AND ABSCESS
OF THE
B R A I N,

ATTENDED WITH
DISEASE OF THE EAR.

By JOHN O'BRIEN, M. D.

FELLOW OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND,
&c. &c.

Read 7th September, 1817.

I BEG leave to subjoin to the cases of Dr. Black, the description of another of the manifold forms of disease of the brain, and illustrative of its pathology.

Elizabeth Walker, Cork-street, about 14 years of age, was admitted an extern patient at the Sick Poor Institution, Meath-street, in June, 1812. On visiting her, I found her in a violent paroxysm of delirium, the face red, the eyes wild, and suffused

with a contracted iris and small pupil ; pulse 120, hard, small, and irregular.

On inquiring the history of her illness, I was informed that she had been subject for near three years to a running from the left ear, attended sometimes with head-ach ; that the discharge had ceased for the last three weeks, owing, as it was thought, to exposure to cold, during which time the head-ach became gradually more violent, and finally produced the symptoms above described. She had strong rigors and several convulsion fits in the last two days. On examining the affected ear, a slight discharge of very fetid greenish pus was perceivable, and both the ear and adjacent parts were a little red and tender, but no discoloration at this time existed.

Under these circumstances, I ordered the patient to be bled immediately from the arm to the amount of 14 ounces, the head shaved and sponged with cold water, and a large blister applied to the nape and back of the head. The affected ear, after being fomented with warm milk and water, was directed to be covered with a large emollient poultice, with a view to bring on the

suppressed discharge ; and a strong purgative of calomel and jalap was given. In the evening of this day also, about six ounces of blood were taken from the temporal artery.

On 2d day's visit, the symptoms, though mitigated, still ran high ; some convulsion fits had occurred during the night, and no marked impression was made on the disorder, though the purgative and blister had operated. She was more tranquil, however, on this than the preceding day, and inclined rather to a comatose state. She was bled from the arm again on this day, and an ineffectual attempt was made to take more blood from the temple.

On 3d day's visit, she was found quite comatose and insensible, with dilated pupils, and the left eye distorted ; several convulsion fits had occurred, and the pulse was not to be counted.

Conceiving now that no change of recovery remained, and that death was fast approaching, I thought it useless to employ any further remedies, but contented myself with dressing the vesicated part with unguent. cantharidis, in order to keep

up the excitement and discharge as long as possible ; warm poultices also were applied in constant succession to the ear. The patient died on the following morning.

The Dissection.

Being permitted to open the body, I obtained the assistance of my friend Mr. Wilson, then surgeon to the Institution, who performed the dissection.

On uncovering the head and neck, we found the skin and integuments of the neck, immediately behind the affected ear, of a black or rather dark green colour, and apparently in a state of incipient mortification ; this blackness extended from the base of the skull behind the ear, more than half way down the neck.

Having divided the cranium, and raised the skull-cap, we found the dura mater much more strongly adhering than natural, to the inner table, the membrane being torn in several places in attempting to separate them. The pia mater exhibited strong marks of inflammation, the minute vessels through the whole of its texture being

finely injected with blood. The ventricles, contrary to expectation, were found to contain but a small quantity of fluid, although the choroid plexus and lining membrane appeared highly vascular and injected with blood. The substance of the brain was more soft and flaccid than usual, and could be more easily broken down on pressure.

On examining the region of the affected ear, we discovered a large abscess directly over the petrous portion of the temporal bone, and extending back a considerable way into the cerebellum; the matter of this abscess was of a greenish colour, and its consistence like that of starch or jelly, emitting an intolerable odour. At the bottom of the abscess we found the dura mater had been destroyed, so that the matter lay in contact with the bone itself, which, to the extent of a half-crown piece, immediately over the spine of the petrous bone and curve of the carotid artery, was become thin and quite carious, so that the abscess communicated by several minute foramina with the external muscles. On examining the neck externally, we found the muscles which are inserted anteriorly, and on the side of the mammillary process of the temporal bone, of a deep

green colour, and the fascia of the neck distended with a dark green fluid; the parotid gland was slightly enlarged.

Observations.

The only probable solution of this case which I have been able to devise, is, that the internal membrane of the ear was originally the seat of acute inflammation, which not being treated with sufficient activity at first, was succeeded by debility and loss of tone in the secreting mucous surface, similar to what takes place in the membrane of the urethra, after violent gonorrhœa, and thus a habitual semipurulent or mucous discharge was established, by which ultimately the bone itself was injured. This diseased state of the parts, whether it be called debility, or chronic inflammation, would naturally render them more sensible to external irritation, and to periodic inflammations of greater or less intensity, according to the force of the cause applied. It is probable, therefore, that on the application of unusual cold to the body, an effect of this kind took place, which checked the discharge, and by consequently accumulating the blood in the neighbouring part of the brain, propagated the inflammation to that organ, and produced the violent phrenitis above described.

Somewhat analogous to this, is the translation of disease, which is produced by an improper use of astringent applications in certain eruptions of the head, by which the disease is transferred to the membranes of the brain. That the suppression of a discharge in the immediate neighbourhood of the brain is adequate to produce phrenitis,* will not admit of doubt, when even in remote parts of the body, the suppression of habitual discharges is enumerated as a frequent cause of phrenitis, by the most eminent medical writers.—Hoffman mentions two cases, in which phrenitis succeeded the suppression of the menstrual discharge, and of an habitual diarrhœa.

The greenish colour of the matter of the abscess is a remarkable, though not a novel appearance—in two cases of abscess of the brain, from a similar cause as the above, related by Morgagni, this colour existed ; in a case also related by Mr. Crampton in his ingenious essay on Periostitis.—Does this colour indicate an incipient mortification ?

As to the medical treatment which is adapted

* See Dr. Powel's cases in the 5th vol. of Transactions of London College of Physicians.

to cases of this kind, it appears to me, that when the disease has existed so long as to injure the bones of the skull, the chance of recovery is very dubious ; it is probable, however, that this effect is very slowly produced, and that attention to the disease, in its early stage, might have prevented its progress.

The seeds of disorders of this kind are generally sown by violent acute diseases, such as fever, small pox, measles, &c. in young persons of delicate habits, and chiefly of scrofulous constitutions, when the head has been much engaged ; in those cases a purulent discharge frequently takes place from the ear, which at first is not attended to, until after a variable lapse of time the bone becomes injured. I have seen several instances of discharges of this kind succeeding bad fevers in young persons ; and I have, at present, under my care, a child, in whom an obstinate running from the ear has succeeded measles. The utmost exertions, therefore, ought to be used, to cure the disease at its commencement, before the discharge has become habitual.

The remedies suited to this purpose, are obviously such as produce derivation from the affected part, as topical bleeding, blisters, the warm bath,

and purgatives ; internal tonics, as the preparations of steel and cinchona ; opium also which, exclusive of its anodyne qualities, has a remarkable power in checking mucous discharges, appears to me applicable to those cases.

A
CASE OF INFLAMMATION
OF THE
E A R,
ATTENDED WITH SYMPTOMS OF
COMPRESSION OF THE BRAIN.
BY

RICHARD GRATTAN, M. D.

FELLOW AND CENSOR OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS
IN IRELAND, &c. &c.

Read 7th September, 1817.

INFLAMMATION of the Ear is a disease that frequently occurs, and is often considered of little importance. The following case may, however, prove interesting, and perhaps instructive, as it presented the most alarming symptoms ; and the patient's life, contrary to all expectation, was preserved only by prompt and active measures.— I therefore beg leave to read it to the Association,

and I am principally induced to do so, from the perusal of the cases which were communicated at the last meeting by Dr. Black. Appearing to possess an affinity to some of those detailed by him, I have thought it may possibly be deemed not unworthy to accompany his, although, considering it merely as an insulated case, I should not perhaps, have made it the subject of a separate paper.

Miss———about a year ago, observed a small excrescence in her right ear, which she shewed to a surgeon, who told her that it was a matter of scarcely any consequence, and that, as she suffered no inconvenience from it, the less she interfered with it the better. She was at all times extremely subject to inflammations of the face and throat, from any incautious exposure to cold, and latterly had been often and severely attacked with tooth-ach. In consequence of this latter circumstance, she came to town about the end of February last, to have her teeth examined. In other respects, she was in perfect health. She went to the theatre which was crowded, and walked home with her head lightly covered. In a day or two afterwards, she felt a severe pain in her ear, which, together with the existence of the tumour, again induced her to consult a surgeon. He advised cotton and camphorated oil to be applied to the ear, assuring her she would soon get better, and that

the pain was in no way connected with the tumour. She did in fact experience some relief from the application of the camphorated oil, but the pain still continued to recur at intervals, and when it ceased to be acute, she complained of an extraordinary numbness, and sense of tightness affecting the ear and parts adjacent.

About this period I saw her ; and, on examining the ear, observed a slight purulent discharge that appeared to proceed from the lower part of the meatus externus, which was, in a great measure, filled up by an excrescence like a nipple growing from the tympanum, to which it was attached by a small neck. There was no other appearance of disease, nor any obvious sign of inflammation.

When pressure, however, was made round the ear, where some little fulness was perceptible, the pain was rendered more severe. Her pulse was quite regular and natural, her tongue clean and her appetite unusually good. I advised her to take a dose of the sulphate of magnesia, stupe her ear with a decoction of chamomile flowers, and should the pain still increase, to have four or five leeches applied round it.

It happened that I did not visit her on the two following days, but at a late hour in the night of

the third day, I was called up and informed that she had been taken exceedingly ill. On seeing her, she appeared as collected as possible, and told me that the pain having become more severe, she had been bled by leeches the day before, but without relief. The pain she said was then most violent. Her friends mentioned, that previous to this attack, she had laughed and cried alternately, like one under the influence of hysteria. She had eaten her dinner with her usual appetite, and it was only during the last five or six hours that the pain had become so very excessive, and extended itself, shooting in different directions, from her ear to her forehead, and towards the top and back of her head.

From the nature of the symptoms, I could have no doubt, but that active inflammation existed to a considerable degree. I immediately opened the temporal artery of the side affected, and took away about eight ounces of blood. This was indeed as much as I could possibly procure, for the action of the artery was not remarkably increased. I ordered a poultice to be put to the ear, and having directed a pill with five grains of calomel, to be succeeded in an hour by an oil draught, with half a drachm of the tincture assafoetida, I departed, satisfied that the means which I had taken would

give, at least, present relief, and arrest the progress of the disease. I was therefore much surprised at being, in the course of less than four hours, again called up, and requested to attend without delay, as she was much worse, and shortly after I left her, had become quite delirious. When I arrived, I found her no longer delirious, but lying in a stupid and heavy state. At the same time she was not altogether insensible, for she could raise her hand to her head, and point to the place where she felt the greatest pain. I ordered the head to be shaved, and a sharp blister applied to the occiput and nape. While these measures were in progress, I called on my friend Mr. Hewson, who returned with me and opened the temporal artery of the opposite side, from which not more than four ounces of blood could be procured.

At eleven the following day, 4th of March, we met in consultation; she was in every respect worse; her stupor had increased; she had become quite comatose: her eyes were only half closed, the pupils were dilated and insensible to the effects of light. She refused to swallow, and moaned much when moved. Her countenance was pale, and her arms, which were pressed close to her chest, were so rigid and inflexible that we could not extend them, and could scarcely even feel her pulse from the position in which she re-

tained them. She had, in fact, every appearance of effusion having actually taken place in the brain, and we agreed that she was in such a state as to preclude all possibility of recovery. However, it was determined that we should not omit any thing, although we had no expectation of its proving ultimately beneficial. As it was impossible to bleed her from the arm, Mr Hewson opened the jugular vein, and obtained from it about ten ounces of blood extremely dark, and which afterwards presented no appearance of inflammation. The following medicines were ordered.

℞.—Submuriatis Hydrargyri,
Pulv. Jacobi veri, et
Sacchari albi, sing. scrupulum. M.

Fiant pulveres quatuor æquales—sumat unum tertiis horis. Injiciatur quamprimum enema cathartium cum spiritûs terebinthinae drachmis duabus post horâs quatuor repetendum.

In the course of the evening, I again visited her, and found that they had succeeded in giving her the remedies ordered in the morning; she had taken all the powders, and the injections were both administered, but her bowels had still been only partially affected; her pulse was more

full ; the heat of her skin greater ; her countenance had rather improved, and she was altogether more sensible. As there was some appearance of amendment, and it was probable that the medicines would operate more fully, the only additional directions were to have her feet well stuped, and an onion poultice applied to the ear, and renewed every third hour.

5th March.—She this day appeared quite sensible, but had no recollection of any thing that had occurred the day before ; her ear was more swelled externally and more painful, but the pain of the head, though it still continued, was less severe. The blister had discharged well ; her tongue was moist and rather white, and she complained of an unpleasant taste in her mouth ; the bowels had not been fully freed, and the abdomen was hard and tense.

R. Infusi sennæ uncias sex,
Sulphatis magnesiæ unciam,
Tincturæ sennæ, et
—Jalapæ utriusque drach. tres,
Elect. scammonii drachmam, M.

Sumat cochlearia tria ampla, tertiis horis ad plenam alvi solutionem. Alvo solutâ, sumatur subinde haustus salinus, cum succo limonis, durante effervescentia.

Hora decubitus, sumat submuriatis hydrargyri grana tria, sub formâ pilulæ.

6th.—The purgative mixture operated freely, and brought away much feculent matter, attended with considerable abatement of all the symptoms. She had a better night, and her sleep was less disturbed. A discharge had taken place from the ear of purulent and very fetid matter, which she herself remarked was most offensive ; her gums were sore and seemed to be affected by the mercury.

Vice prioris, auri applicetur cataplasma cum spumâ cerevisiæ. Repetantur haustus salini, et horâ decubitus pilula cum submuriate hydrargyri ; cras mane repetatur mistura cathartica.

7th.—Refused to take the mixture. Although the discharge from the ear still continues, she has occasional pains of the head more violent than those of yesterday. Pulse full and frequent ; skin hot ; bowels confined ; gums evidently affected.

*R.—Olei ricini drach. sex,
Tincturæ sennæ drach. duas,
Aquæ cinnamomi semunciam,
Syrupi zingiberis drach. tres, M. fiat*

Haustus statim sumendus.—Alvo solutâ, su-

mat coch. duo ampla misturæ sequentis, tertiâ quaque horâ.

R.—Aquæ acetatis ammoniæ uncias duas,
Aquæ puræ uncias quatuor,
Tincturæ digitalis guttas sexaginta,
Syrupi croci drach. tres. M.

8th.—Pulse still frequent ; skin hot and dry ; pain of the head nearly as yesterday ; bowels not sufficiently open ; the discharges being scanty and dark coloured ; the ear sore and painful to the touch, especially behind the cartilage of the helix.

An eruption appeared on the lower part of the neck, and between the shoulders, which was extremely itchy ; and from which a viscid discharge exuded, that presently formed itself into small dry scales. Gums sore.

R.—Massæ pil. colocynthidis comp. scrupula duo
Gummi gambogiæ, et
Pulv. antimonialis utriusque grana quinque.—Fiant pilulæ decem æquales ; sumat tres quartâ quâque hora, donec responderit alvus. Perstet in usu misturæ diaphoreticæ cum tincturâ digitalis ut heri ; repetatur cataplasma, et inspergatur erupto farinâ tritici.

9th.—The pills operated well ; general fever

considerably less, but the pain behind the ears still continued with occasional exacerbations ; and the skin of the part was tumid and red. A fluctuation was perceptible, and matter had evidently formed. The abscess was opened, when a great discharge of pus took place, apparently well digested, but so fetid that it could scarcely be endured. The discharge from the ear itself still continued.

Omittantur pilulæ. Repetantur omnino caetera, sed fiat mistura diaphoretica cum tincturæ digitalis guttis quadraginta solum.

10th.—On probing the abscess, it was found to extend far under the skin, and to be attended with a caries of the bone. Much matter flowed out, when its sides were pressed in a direction from the upper and posterior parts of the head towards the opening. Gums still sore, but no ptyalism ; tongue not quite clear, though nearly so ; bowels slow ; no fever ; pain of head and ear better.

Habeat statim haustum oleosum.

11th.—Fever entirely removed ; eruption better ; mouth less sore ; expressed a wish to take some solid food. The ear which still continued to discharge, was strongly syringed with warm water, some of which she thought passed into her

throat. The polypus was shrivelled and contracted. From the opening behind the ear, the discharge continued undiminished. The ear was directed to be washed and syringed three or four times in the course of the day, with a weak solution of the sulphate of zinc in rose water. The poultice with barm was also to be applied behind the ear to correct the fetor of the discharge.

From this period her convalescence, though slow, was progressive. Exacerbations of the pain in the ear and surrounding parts, were occasionally experienced; but purgatives and the application of an emollient poultice to promote the discharge from the ear, always gave relief. What remained of the polypus Mr. Hewson afterwards extracted with a forceps. It was about the size of a pea, and possessed little cohesion, yielding easily to the pressure of the forceps. The tympanum appeared to have sustained considerable injury. By a perseverance in the use of the solution of the sulphate of zinc, which was gradually made stronger, and which by its tonic and astringent properties, evidently contributed to check the purulent secretion, the discharge gradually diminished, and at length almost entirely ceased. Removal to the country, light nutritive diet, and moderate exercise in the open air, were pointed out as the means most likely to re-establish her general health; and it was at the

same time suggested, that as the summer advanced, sea-bathing might probably be tried with advantage.

I have the pleasure to add, that during the last month, sea-bathing has been employed by this lady, and has produced all the benefit that was expected from it. Her ear at present gives her no trouble, but she certainly does not hear as well with it as with the other. This, however, is a circumstance not to be wondered at, when we consider the serious injury which its structure must have sustained, from so violent and extensive an inflammation.

Observations.

Having in the treatment of the above case prescribed mercury and digitalis, so as to produce their full effects on the system, I shall beg leave to submit a few remarks respecting their utility as remedies auxiliary to the employment of blood-letting in the management of inflammatory diseases. The opinions which I have formed on this subject, having been derived from a very extensive experience of febrile diseases, complicated in numerous instances with local inflammation ; and in which

I am accustomed to use these remedies more freely, perhaps, than is generally practised, I trust I may be excused for explaining the reasons by which I am influenced.

In every disease, I conceive there exists a certain tendency of the animal economy to overcome the diseased actions, and restore the affected organ to the free exercise of its healthy functions.—The object of the physician, therefore, should be, to remove, by judicious and well directed efforts, those causes which tend to maintain the disease in opposition to the exertions which nature continually makes to subdue it. It is true, we cannot at all times so influence the minute and occult actions of the animal system, as to regulate or suspend at our will, those which are inconsistent with health ; we must in general be content, by studiously inquiring into the nature of the disease, and carefully observing the tendency of the symptoms which present themselves, to regulate each in the way which our experience and judgment shall concur in pointing out as the most likely to contribute to the restoration of health. Hence the great importance of inquiring into the causes of diseases, and hence the numerous improvements which medicine has already derived,

and no doubt must still continue to acquire from an attention to pathological investigations.

Inflammation, when it occurs, has its seat in those vessels, termed capillary, which form the medium of connection between the termination of the arteries and the commencement of the veins. Neither arterial nor venous, they form a separate system, exercise functions peculiar to themselves, and effect, by their agency on the blood, the various changes which are classed under the general head of Secretion. When inflammation exists, congestion always takes place in the capillaries: congestion in the capillaries is in fact a condition inseparable from the presence of inflammation, and may be traced to a disproportioned action between the capillaries and the minute arteries by which they are supplied. It is not necessary that the capillaries should be in a state of debility; it is sufficient that their action shall be less than that of the power by which the blood is impelled into them, for from this cause congestion equally follows, and inflammation must be the result.

When congestion of the capillaries is accompanied by an increased action of the minute arteries, the *phlogistic diathesis* prevails, and the treatment consists in the employment of those means by which vascular excitement can be most readily

subdued. When, however, congestion occurs in the capillaries, without any obviously increased arterial action, the disease assumes the *chronic* form, and if not relieved, pursues its course, exciting in appearance less disturbance, but proving in the end not less fatal than the former. It is always in the capillaries that inflammation commences; for when they exert themselves, so as to transmit the blood as quickly as they receive it, the balance of the circulation is preserved, and neither congestion nor consequent inflammation is produced. If this were not the case, no organ could be considered secure against inflammation, under the slightest increase of the ordinary force and quickness of the general circulation; the most trifling exercise, or more than common exertion, must presently give rise to serious disease. But, in general, when the force of the circulation is increased, the capillaries are equally excited to a corresponding action, so that no accumulation of blood takes place. It is only when from some local cause their power of thus equalizing the circulation is suspended or destroyed, that inflammation is produced. In this way it is, that a general increase of vascular action, does not always, and yet may sometimes, produce local inflammation, although, at the same time, the immediate cause of such inflammation must be invariably referred to the state of the capillaries themselves.

When, in consequence of local congestion, the resistance to the circulation of the blood occasions an increased effort on the part of the minute arteries, and a corresponding action of the heart, attended with more frequent and forcible contractions, the inflammation becomes acute, and terminates either in resolution, or by some other mode, which varies according to the violence and duration of the inflammation.

Resolution takes place when no change is produced in the structure of the part, the congestion having been removed and the balance of the circulation restored. Effusion occurs when the capillaries cannot sufficiently deplete themselves by the usual channels, but, in consequence of their preternatural distention, pour out a portion of their contents either on the surface or into the substance of the texture of which they form a part. Suppuration, I conceive, is produced when the capillaries, without being debilitated, are, notwithstanding, affected with congestion, a condition which may readily occur, provided the action of the minute arteries shall have been increased, that of the capillaries remaining unaltered. In this state, the capillaries gradually acquire a new structure, they assume new functions, and secrete matter more or less purulent.

From these views, if they are correct, and it must be admitted that they are in many instances hypothetical, it would, however, follow, that those remedies which are known to exert a considerable influence, in modifying the actions of the capillary system, may be employed with much advantage in the treatment of such diseases as have their origin in inflammation. Next to blood-letting, mercury and digitalis seem to hold the principal rank amongst such remedies. Each, however, acts in a way peculiar to itself; and hence, according as they are used either separately, or differently combined, they may be employed to produce different effects, all tending, however, to the same end, namely, the resolution of the disease.

In every case of inflammation, I am inclined to believe that the increased action of the minute arteries of the part affected, is injurious, and tends rather to augment than to lessen the local disturbance. When their action is inordinate; and the general inflammatory diathesis considerable, this is obviously the case. Sometimes the violence of their action is such as even to destroy the vitality of the part, and produce gangrene. In a lesser degree, it causes suppuration or effusion, but when still more moderate, neither of these events take place, the inflammation either

terminating in resolution, or passing into a chronic state. When the arterial action, therefore, is excessive, and the resolution of the inflammation is an object of importance, general blood-letting becomes indispensable, and should be assisted by different other means which are found to moderate arterial excitement. Still, the influence which general blood-letting exerts over the capillaries is at best remote, and can be considered in the light only of a palliative. It would seem to act principally by moderating the violence of the disease, and affording time to the capillaries to complete the cure. Without immediately effecting resolution, it tends to produce it by diminishing the impediments which oppose it. It has a twofold effect—it moderates the action of the minute arteries, thus causing them to propel less blood into the capillaries, and it also lessens the opposition to the free passage of the blood from the capillaries into the veins, by diminishing the volume of blood to be propelled.

As it is in the capillaries that inflammation originates and exists, it is in them, that its cure is to be effected. Whatever, therefore, acts more immediately on the capillaries, may be expected to produce more certain and decided effects. For this reason it is that topical blood-letting is, at all times, so much more effectual in

subduing inflammation, when the situation of the part will admit of its being employed, than general bleedings, though far more copious and more debilitating to the system. Local blood-letting strikes at once at the cause of the disease, and preserves the capillaries from the effects of over-distention, until they shall have recovered their proper tone, so as either to resist the excessive admission of blood, or else to propel it as fast as it shall be received.

It is certainly true, that, in many instances, and those even of the most active inflammation, general blood-letting will be found sufficient to relieve the urgency of the symptoms, and cause the disease to terminate favourably : but every physician must be aware that there are also instances, perhaps equally numerous, in which it would be altogether imprudent, and, in some, even quite impossible, to push blood-letting to an extent sufficient to effect, by its influence alone, the resolution of the disease. Must it not, therefore, be most desirable to possess other agents, to which we can have recourse, either in conjunction with blood-letting or subsidiary to it, when its further employment would be no longer admissable ? Speaking from my own experience, I think I may venture to affirm, that large general bleedings are,

in the treatment of many inflammatory diseases, not merely unnecessary, but injurious; and I can safely say, that, at least in the diseases of Dublin, such complaints are more safely and more successfully managed by employing blood-letting in moderation, and assisting it by the use of other remedies.

In cases of inflammation, after moderate venæsection has been premised, I find that digitalis produces the most beneficial effects, and contributes greatly to the favourable termination of the disorder. Digitalis, it is well known, exerts a decided influence over the arterial system, lowers the action of the heart, and diminishing the frequency of the pulse, more efficiently than any other medicine with which we are acquainted. So far, it evidently offers us a substitute for general blood-letting, and with this view has been long employed by practitioners. To produce its full effect in subduing inflammation, it must, however, be given in doses sufficiently large, and repeated at short intervals. I mentioned in my report of the Fever Hospital, for the year 1815, which was published in the first volume of the Transactions of the Association, that I most commonly administered it in doses of about ten drops, combined with a diaphoretic, and repeated every third hour. The tincture is, I think, preferable to

the powder, and when well prepared, it will be found that the doses in which I have recommended it, are sufficient, if persevered in for two or three successive days, to produce an effect on the system. From my experience of it, I can also state, that its administration is wholly unattended with any danger, which might be expected to result from the narcotic influence of the medicine.

Independently of the power which digitalis evidently possesses of diminishing the *vis a tergo*, it has the further effect of increasing absorption, from the various textures which are supplied with blood-vessels and capillaries. Thus, in this way, it also tends to subdue inflammation; for, as absorption is promoted, the contents of the capillaries must be proportionably diminished, and their turgescence relieved. It may be questioned whether digitalis, considered with reference to its action on the capillaries, affects merely the minute branches of the lymphatics, at their commencement, increasing their absorption alone; or whether it may not also immediately influence the state of the capillaries themselves. May not digitalis, at the same time that it increases the action of the lymphatics, which every where accompany the capillaries, also stimulate the latter to more forcible contraction, so as to propel their

contents, and relieve themselves from morbid distention? Its action on the heart is sedative, as is also its effect on the arterial branches which terminate in the capillaries; but the capillaries evidently possess a structure different from the arteries from which they derive their origin; and hence it is not unphilosophical to suppose that they may be differently affected even by the same medicine. Should this opinion be correct, the local action of digitalis on the vessels which are the immediate seat of inflammation, will bear a strong analogy to the effects of topical blood-letting; while its sedative effects on the heart and arteries equally resemble those of blood-letting largely practised from the general system. At all events, be this as it may, the increased action of the lymphatics, together with the diminished action of the heart and arteries, are in themselves sufficient to explain whence it is that digitalis is a remedy of such utility in the treatment of inflammation.

Mercury, like digitalis, acts powerfully on the absorbent system. Although it has a strong tendency to equalize the circulation and to remove congestion, yet it does not diminish the action of the heart or arteries. Its influence is principally exerted on the capillary system, and particularly on that of the absorbents, which it stimulates more effectually and permanently than any

other medicine. That it acts immediately on the capillaries, I think, can hardly be disputed, when we consider its well-known effects in changing the nature of various secretions, causing some to become healthy that were before diseased, and altering for the worse others that were healthy previously to its employment. From what has been already said on the subject of digitalis, and the mode in which it probably acts, it would seem that mercury is, in certain cases of disease, even more likely to be of use. I conceive it is peculiarly applicable to that variety of inflammation in which the capillaries are turgid from debility, a species of turgescence which is unattended with any remarkably increased action of the arteries, and in which the general system, therefore, does not strongly sympathize. In such a state of the vessels, large and frequently repeated blood-letting must be injurious. Digitalis and mercury, but particularly the latter, offer us their assistance, and promise to supply its place, nor has experience failed to justify the preference which they have obtained.

In weak and debilitated constitutions, inflammation of the mucous membrane of the lungs, attended with severe cough and expectoration tinged with blood, frequently occurs in this climate when the atmosphere is cold and damp, and

yet in such instances large blood-lettings cannot be prudently employed. When they have been injudiciously used, I have found that they most commonly produce a strong tendency to effusion, and that the breathing still continued quick and laborious, with orthopnoea, tumid countenance, and dark colour of the cheeks and lips, symptoms which indicate the utmost danger, and which, at the same time, forbid the further detraction of blood. In such cases, when the pulse is not too weak, I cautiously employ digitalis, carefully observing its effects, and from the beginning give mercury in as full doses as the state of the patient will permit, so as to produce its specific effects on the system ; using, of course, the other auxiliary remedies, such as blisters, expectorants, &c. and sometimes stimulants, when the general debility, and absence of acute inflammation shall appear to indicate them.

It is a remarkable fact, and I mention it as one to the accuracy of which I can pledge myself, that I never lost a patient, under the circumstances which I have described, when the system was once fairly under the influence of mercury. Recovery may have been slow, relapse may have taken place, or phthisis, or hydrothorax supervened, and such events were to be expected in constitutions so debilitated and broken down by symptoms so violent ; but still I cannot recollect a single instance

in which obvious relief was not obtained and life prolonged, when mercury succeeded so as to affect the system. It is not necessary to go to the extent of producing salivation, although this will sometimes take place, for I have found it quite sufficient to render the mouth somewhat sore.— Having succeeded so far, I gradually lessen the quantity of calomel, or omit it entirely, according as the symptoms shall appear to have been relieved.

These observations apply to inflammation affecting every other organ, as well as the lungs, but having already extended them further than I at first intended, I shall not dwell longer on the subject, except merely to allude to the case by which they have been suggested. In this case there was no general inflammatory diathesis, and hence after endeavouring to subdue the local inflammation by topical blood-letting, carried to as great an extent as prudence would warrant, mercury was resorted to, but without at the same time using digitalis. Mercury was indicated by the local inflammation, while the necessity of digitalis was less obvious, from the absence of any generally increased action of the heart and arteries. The mercury soon produced its specific effects, and co-operating with the tendency of the bleedings already employed, nature was assisted in its efforts to subdue the disease, and the symptoms were relieved. In the progress of the complaint, ap-

pearances of renewed inflammation and general arterial excitement presented themselves. Digitalis, therefore was pointed out as a proper remedy, and prescribed with advantage.

The effect of digitalis in this instance, and its employment subsequently to the use of mercury, lead me to make an additional observation. In diseases which depend on chronic inflammation, general venæsection, practised moderately, should never be omitted when the symptoms evince a tendency to pass into the acute form. In such cases, however, where acute symptoms have actually supervened, the disease cannot be considered as identical with that which previously existed. If the vessels of any part assume a new action, and new symptoms present themselves, a new disease must be considered as engrafted on the old, and the treatment varied accordingly. In fact, to practise with success, we should expect such changes to occur, and be prepared to meet them. We should not allow ourselves to believe that any disease can be simple and uniform throughout, and preserve the same character from its commencement to its termination. Every disease must have its different stages, and these, and their symptoms are conditions as distinct as the various objects which present themselves in succession, to the view of the traveller during the course of his journey. As these, though obviously separate

and distinct, form notwithstanding one assemblage when associated with the idea of change of place, so in each derangement of the animal economy, the different symptoms which occur during its continuance, constitute in the aggregate one disease. Were we, however, to treat disease under the impression that it was in every stage, one and the same, we should, to be consistent, use the same remedies during its entire progress, without selection or discrimination. Were such the case, merely to know the names of diseases, and recollect the remedies in general use, would constitute every qualification necessary to the physician, whose practice would presently become altogether empirical. On the contrary, by regarding each disease as consisting of a series of morbid actions, we are induced to inquire into the nature of those actions, so as to distinguish accurately between them ; convinced of the necessity of treating each in a way adapted to it in particular, and at the same time consistent with the general character of the complaint. Thus pathological research is promoted, accurate and extensive views are acquired, and medical practice established on the certain basis of observation and experience. Medicine thus effectually defends itself from the degrading reproach of empiricism, and elucidated and improved by just and enlarged conceptions ; it asserts its proper rank, and maintains its place amongst the Sciences.

OBSERVATIONS
ON
VARIX AND VENOUS
INFLAMMATION;

WITH INSTRUCTIONS FOR OPERATING WITH SAFETY TO THE
FEMORAL VEIN

IN POPLITEAL ANEURISM.

BY
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&c. &c.

Read by Dr. Brooke, 7th of September, 1818.

FIVE or six years ago, a case of venous inflammation occurred under my care, after the operation of tying the saphena vein, on account of a varicose state of the vessels of the leg, and an ulcer situated above the inner angle. The notes I then took have unfortunately been lost; but the case made so strong an impression upon me, that the following circumstances are fresh in my memory. The patient, a stout young man, was an intern of the Richmond Surgical Hospital. A few days after the vein was tied in the manner recommend-

ed by Sir E. Home, he became uneasy and restless, complained of oppressed breathing, and had a rapid pulse, furred tongue, great thirst, flushed countenance, and also tenderness and swelling of the thigh. These symptoms were followed in a few days by strong rigors, frequent sighing, and a sense of weight about the præcordia. On the accession of these complaints, the ligature round the vein was immediately cut away; and recourse was afterwards had to repeated venæsection, purgatives, antimonials, fomentations of the limb, and all those means calculated to lessen general as well as local excitement. Notwithstanding these measures were pursued with activity, the disturbance of his system increased, and the limb became more swollen.

The cerebral functions were also engaged, as evinced by occasional incoherency and delirium. In these, as well as in his other symptoms, the disease, in eight or ten days from its commencement, assumed very much the character of a typhus fever. New and unlooked for appearances now took place; four or five tumours formed on different parts of his body—on his hips, shoulders and breast, which quickly suppurated—some of these I punctured as soon as a fluctuation was evident, and the integuments discoloured. About an ounce or an ounce and a half of healthy looking

matter was discharged from each tumour ; but it was foetid, and attended at the same time with a disengagement of some very offensive gas, which bubbled through the matter. This extraordinary circumstance I simply detail as it occurred, without pretending to account for it.

These suppurations were not, however, attended with any relief of his symptoms ; the fever, thirst, and general uneasiness still continued ; the limb became enormously swollen without evincing any sign of suppuration, and he sunk so fast as to leave no hope of his recovery. At this juncture, his friends insisted upon taking him to the country, and in all probability he died on the road. Indeed the event appeared to me to be so inevitable, that I regretted an interference which prevented the examination of the body.

Mr. HUNTER was the first to call the attention of the profession to the occurrence of inflammation of the veins, which he attributes chiefly to inattention in closing the orifice of a vein after phlebotomy. Before the publication of his observations on the subject,* the untoward symptoms, which sometimes occurred after venæsection, were

* See Transactions of a Society for the improvement of Medical and Surgical Knowledge,—page 18, vol. I.

in general attributed to a wound of the tendon of the biceps muscle. His view of the subject, however, deserves more attention than it seems to have received. Inflammation of the veins, like inflammation elsewhere, will have its degrees. It may only produce a slight thickening of the coats of the vessel, and of the cellular membrane around the injured part ; or it may extend along the vein in both directions exciting the deposition of coagulable lymph, and the final obliteration of its cavity by the adhesion of its sides. But if the inflammation exists in a still higher degree, the internal coat of the vessel will undergo a change to adapt it to the secretion of pus, which, according as it is formed, will, of necessity, mingle with the general mass of blood, except as is sometimes the case, the cavity of the vein is obstructed at different intervals, by the adhesion of its sides, when a chain of abscesses will in consequence form along the course of the vessel.

These abscesses, however, had not formed in the instance I have mentioned, nor in that which I shall presently detail. In both of them it is probable that the great disturbance of the system, and the peculiar typhoid character of the symptoms, may have been owing to the admixture of pus with the general mass of blood.

The only case I have met with in print, which

bears any resemblance to that I have just detailed, is one related by Mr. Hodgson in his valuable work on diseases of the arteries and veins. In this case * the inflammation succeeded venæsection in the arm ; and after the usual febrile symptoms, “a painful swelling was observed above the clavicle, and in a few days afterwards, another soft diffused swelling was discovered underneath the angle of the lower jaw.” It does not, however, appear that those tumours suppurated. On examination, *post mortem*, among other morbid appearances, it was noticed that the cephalic vein, which had been the one injured, was obliterated as far as the shoulder—that the internal jugular, subclavian, axillary and brachial veins were enlarged and thickened ; and also that the external jugular, and subclavian veins were filled with pus. The diseased appearances were not gradually lost, but terminated abruptly. The heart was healthy.

Notwithstanding the slight attention which has been given to the subject, I am confident that inflammation of the veins is an occurrence much more frequent than is generally imagined ; and that many lives are annually lost from this cause alone, even where its existence has not been suspected. Now that blood-letting is so generally

* Case XLIX—page, 512.

practised in every description of fever, it is incumbent upon practitioners to be aware that a train of symptoms, strongly resembling those of typhus, may arise from venous inflammation, and from which it is difficult to distinguish it, except indeed the inflammation of the orifice and the pain and tenderness along the course of the vessel may lead to a true diagnosis. In extensive wounds or surgical operations, I believe it to be a still more common but unheeded cause of death, and the following case will afford a convincing elucidation of this remark.

CASE II.

James Boyle, æt. 40, was admitted into the Richmond Hospital, on the 20th of May, 1818, on account of a large popliteal aneurism on the right side. On the 25th, I tied the femoral artery immediately above the part where it passes under the sartorius muscle. A silk ligature of two threads was employed, and the ends were cut close to the knot, according to the method recommended by Mr. Lawrence. Nothing particularly worthy of notice occurred during the operation; the artery was fully exposed in a few seconds from the time of its commencement; but some little force was required to pass the aneurismal needle, armed with the ligature, under the artery; and as soon as it was accomplished a gush

of venous blood followed, which in a second or two spontaneously ceased. When the ligature was tightened, the pulsation in the tumour of the ham, which before was strong and manifest, immediately ceased, and a diminution in its volume was even obvious to the eye. After the operation, the patient complained of numbness in the foot, but in every other respect was totally free from uneasiness of any kind. On the day after the operation his pulse was but 75, and the temperature of the affected limb was the same as the other.

On the 3d day, the dressings were removed, and it was found that the wound had apparently healed by the first intention. But on the 5th day a small quantity of pus flowed through an opening in the lower part of the cicatrix. He now began to feel some general uneasiness ; his pulse the following day rose to 90, which since the operation had not exceeded 75. His sleep was disturbed, and his countenance flushed, but he could not point out the particular cause of his uneasiness. Conceiving that an abscess had formed about the ligature, I broke down with the probe the new formed cicatrix, but very little additional matter was discharged.

June the 7th—The thirteenth day from the operation, he had several distinct rigors, followed by increased heat ; the discharge from the

wound, which was of a healthy appearance, had augmented in quantity; and the lower part of the leg had become œdematous. He sighed, or rather moaned, frequently, but was still at a loss to point out any seat of the pain; and he had that listlessness of manner and countenance usually observed in the second or third week of typhus fever.

On the 8th, he had a strong rigor, which continued 15 minutes, and on the 9th, he had three distinct rigors, each followed by a profuse perspiration. His face and neck were in general of a deep red colour, covered with a clammy perspiration; his manner evinced great torpor and debility, and at times he muttered incoherently to himself; pulse 90; tongue brown; the œdema had extended to his knee. Six ounces of blood were taken from his arm, which exhibiting the buffy coat, induced me to extend the depletion to twelve ounces more on the same day. He was also directed a calomel bolus with a cathartic mixture.

10th.—There were no signs of amendment; ten ounces of blood were taken from the arm which also exhibited the buffy appearance. The discharge had rather increased, but there was no lodgement of matter; the entire limb was now swollen and œdematous.

11th.—He was evidently worse; his pulse up-

wards of 100 ; tongue brown and dry ; respiration oppressed and laborious. In the evening he was affected with hiccough, and had another rigor, after which his face, which was hitherto of a deep red, became pale and ghastly, and he was delirious during the night. Wine was now given to him.

12th.—He was decidedly sinking ; pulse 130 ; the integuments in the ham, covering the tumor, were livid and mortified. I made an opening into them, and set free a quantity of putrid coagulum, the contents of the sac. On the morning of the 13th, he died.

Examination.

On removing the integuments in the neighbourhood of the wound, it was ascertained that the discharge of matter had proceeded from a small abscess immediately behind, and adjoining the inner or pubal side of that part of the artery where the ligature had been applied. The ligature was found firmly fixed to the artery ; and immediately above it, on slitting the artery open, a firm conical portion of lymph, mixed with coagula of blood about half an inch in length, evidently organized, was found to fill up the vessel ; so that, as far as the process of union in the artery was concerned, nothing could be more satisfactory. We next

proceeded to examine the aneurismal sac, the surface of which was found dark and sloughy, and capable of containing about four ounces of fluid. The artery was evidently ruptured for about an inch in extent: two thirds of the arterial cylinder were deficient, while the remaining third (that which lay next the bone) connected those parts of the artery which continued entire, both above and below the sac; and there was no appearance which could induce us to suppose that the latter was formed by the dilatation of the coats of the vessel. So far in the dissection there was nothing ascertained to explain the symptoms which occurred after operation, or account for the death of the patient; but these were sufficiently explained on an examination of the veins. It was found that the crural vein, lying behind, and in close contact with the artery where the operation had been performed, had been wounded by the needle, a circumstance which accounts for the gush of venous blood which took place during the operation, on passing the aneurismal needle under the artery; yet no portion of the vein was included in the ligature. On slitting it open, its interior surface was found lined with pus and organized lymph, exhibiting the appearance which membranes present in a suppurating state. This appearance extended downwards almost to the ham, where it suddenly ceased, but the vein was rendered impervious at this part by a deposition

of coagulable lymph. The disease also extended a considerable way down the saphena; upwards I traced it as far as the common iliac vein, but I could not proceed farther, as the friends of the deceased were waiting for the body, and I had been under the necessity of promising them that I should only examine the limb; but it is probable that the inflammation extended to the cava, and perhaps to the heart. The diseased parts are preserved among the morbid anatomical preparations of the Richmond Hospital.

It is almost needless to enlarge upon the points in which this case affords a useful lesson. In so far as the artery is concerned, it proves that the small ligature recommended by Mr. Laurence, and the removal of its ends close to the knot, is sufficient to produce adhesion of the sides of the artery, and at the same time does not prevent the healing of the wound by the first intention, a circumstance which must obviate in a great measure much of the danger attendant upon this operation. 2d. It evinces the necessity of avoiding the vein. In the present instance, the artery was fully exposed before the ligature was passed; and when resistance was felt to the passage of the needle, I conceived that it was owing to the dense cellular membrane surrounding the artery; but whoever examines with attention the close contact, nay, adhesion of the femoral vein to the

artery from the tendon of the triceps almost to Poupart's ligament, will be convinced of the great difficulty of passing a ligature around the latter without wounding the former. This circumstance cannot but be of frequent occurrence, although in every instance, venous inflammation may not be the consequence. Some months ago a man underwent the operation for popliteal aneurism in the Meath-street Hospital. Secondary hemorrhage ensued, and the patient died.

The gentleman who performed the operation, an expert and able anatomist, informed me that on examination, it was ascertained that the ligature had passed through the vein, and that its coats were found in a suppurating and sloughing state, the extent of an inch or two above and below the wound; but the artery was also in a sloughing state, and it was obvious that an immediate communication had taken place between the two vessels so as to create a true varicose aneurism. As union had not occurred between the sides of the artery, we cannot attribute the fatal event to so small an extent of inflammation as that stated to have taken place in the vein; the case, however, cannot fail to be useful by evincing how liable this vessel is to be wounded, although the greatest care may have been employed in the act of passing the aneurismal needle under the artery. It is true a large vein may be wounded with impunity, but this affords no sound argument against

our adopting every adequate precaution to avoid an accident, which as we have seen, has caused at least one death, and for aught we know to the contrary, others beyond number.

The only part of the thigh from Poupart's ligament to the tendon of the triceps, in which the femoral vein is not completely covered by the artery, lies within the space which extends from Poupart's ligament to where the artery meets the sartorius muscle. At that part of this space most distinct from Poupart's ligament, the vein begins to disclose itself at the pubal side of the artery, from beneath which it emerges more and more as it ascends. This is the spot now generally chosen for the operation, on account of the superficial situation of the artery, which enables us to feel its pulsations before the skin is divided; but it is also the most advantageous part for tying the ligature, on account of the natural exposure of the vein and the consequent facility this circumstance affords for avoiding that vessel, for the actual view will enable the operator to pass the needle between the two vessels without wounding either, or disturbing them from their natural situation. This of course will be more easily done by introducing the needle on the pubal side of the artery, where the vein presents itself to view, and may therefore easily and safely be passed between

them when they are sufficiently exposed by previous dissection.

The close proximity and connexion of the vein with the artery, and the danger of including the former in the ligature, did not of course escape the attention of the many experienced surgeons who have written on the subject ; but the easy and safe mode of accomplishing this object, which I have just pointed out, has not, I believe, been noticed by any. The following are Mr. Hodgson's directions on this part of the operation : "The coats of the artery being fairly exposed, the ligature is to be passed round it with a common aneurismal needle, the point of which is to be kept in close contact with the artery, so as to avoid including the femoral vein, or the branches of the anterior crural nerve."*

From the fatal termination of the cases which I have detailed, and from numerous trials I have made on the dead subject, I can assert with confidence that Mr. Hodgson's directions do not afford us a sufficient security against inflicting an injury on the vein : for if we pass the needle from the external or ilial side of the artery, we cannot be certain that the vein is not included in the ligature, or that it will not be wounded by the needle, while

passing under the artery ; but on the other hand, if we pass it from the internal or pubal side where the vein emerges from beneath the artery, and where the needle can obviously be insinuated between the vessels, no danger can arise of injuring the vein—a material object, which may thus be accomplished without disturbing the artery from its bed, or treating it with that unnecessary degree of violence which is involved in the following directions of Professor Scarpa : “ With the point of the fore finger of the left hand already touching the femoral artery, the surgeon will separate this artery from the cellular substance which ties it laterally and posteriorly to the contiguous muscles : making the point of the same finger pass gradually under and behind the superficial femoral artery, supposing that the surgeon has not enormously large fingers, he will raise it alone from the bottom of the wound, or, where it cannot be avoided, along with the great femoral vein. If it is along with the femoral vein, *holding the artery and vein thus raised and almost without the wound*, the surgeon with a bistoury or spatula, or simply with the fingers of his right hand, will cautiously separate the vein from the artery, only in the space corresponding to the point of the finger which supports the artery. He will then pass behind the denuded raised artery a large-eyed crooked needle with a blunt point, carrying in the eye near

to the point two waxed ligatures, each composed of six threads.†

With respect to the first part of these directions, that in which we are desired to separate with the fore finger the artery from the vein, while they are lying in their natural situation, I altogether deny the possibility of profiting by this suggestion ; so close is the connexion that exists between these two vessels, that handling them in the manner described would considerably endanger their safety ; and with respect to the second part of his advice, that in which we are desired to raise in our fingers the artery and vein almost *without the wound* for the purpose of separating them with a bistoury or spatula, I need not point out to the enlightened practitioners of these countries the danger attendant upon that degree of violence, which must be necessary to drag the artery and vein from their natural situation almost out of the wound. But if it shall be found that the mode I propose will enable the surgeon to pass the ligature round the artery without disturbing it from its situation or injuring the vein, it must necessarily follow that the operation for popliteal aneurism will in a great measure lose the formidable character with which it is at present invested. For the frequent fatal terminations of this operation under the most promising circumstances hi-

† Scarpa on Aneurism, translated by Wishart, p. 266.

therto so difficult to explain, has been a great drawback on the eclat attending the rapid improvement of British surgery in the treatment of aneurism.

In corpulent persons it is not always easy to discover the course of the artery by its pulsations ; it would therefore be eligible to have some positive rules by which we may ascertain with precision not only the line of the artery, but also the exact spot at which the vein begins to emerge from beneath it, which is the place for performing the operation.

In a middle sized man the vein begins to emerge from under the artery, at five fingers breadth or three inches beneath a transverse line, ranging with the upper edge of the symphysis pubis,* and is fully exposed at four fingers breadth or two inches and a half below this line, to admit of being laid bare by dissection, so as to enable the operator to pass the needle with ease and safety between the two vessels ; this spot lies considerably below the origin of the profunda, and the junc-

* In order that our measurements should be correct and undeviating, they should be made from a fixed point, such as is afforded by the os pubis ; and not from an indistinct line, whose position varies whenever the thigh is bent or extended, which is the case with respect to Poupart's ligament.

tion of the saphena with the femoral vein ; the latter after this junction, completely emerges from under the artery, on the pubal side of which, it lies in the same plane, until both vessels are concealed from our view by Poupart's ligament.

If the pulsation of the artery is not so obvious as to direct us where to make our incision, we may err in approaching too near the pubis, and thus, (independent of other consequences) embarrass the subsequent steps of the operation, by opening the saphena vein ; but this may be avoided by measuring the distance between the symphysis pubis, and the most anterior point of the spinous process of the ileum. In middle sized male subjects this measurement usually gives five inches and a half, and in females half an inch or an inch more, one half of this measurement then brought to a transverse line from the upper edge of the symphysis pubis, will give the exact situation of the ilial side of the artery, at the place where the ligature is to be passed, which is at two inches and a half, or at the most three inches from this point along the groin towards the knee. In cutting down upon this spot, we come upon the pubal edge of the sartorius, where that muscle meets the artery, and here we have a strong dense fascia, (the fascia lata) extending from the muscle over the vessels, but it is considerably more dense over the latter ; this fascia may be

divided with safety on the sartorius, and by pursuing the dissection of it, we expose first the artery, and then the vein; and when the vessels are thus sufficiently exposed, we may insinuate between them with ease the aneurismal needle, which is to be pushed under and close to the artery, without disturbing it from its bed; when the point of the needle appears at the opposite (the ilial) side of the artery, we must satisfy ourselves before we force it through, if we meet with any obstruction, that it is merely produced by cellular membrane, and is not occasioned by either the vein, or a branch of the crural nerve (saphenus) which is usually found lying in contact with the ilial side of the artery, and which is therefore in great danger of being injured, or included in the ligature.

It may possibly be said that the precautions I have dwelt on, will not be requisite to an expert operator, but to this I can only reply, that although I do not take upon me to appreciate the extent of any man's dexterity, yet I can confidently assert that the needle cannot be passed under the artery, even in the dead subject in any other spot, or in any other manner than those I have proposed, without the greatest danger of inflicting a wound on the vein or interfering with the profunda artery; unless indeed the operator shall previously separate the vein from the back

of the artery, (as recommended by Scarpa,) but to which it is so firmly attached, that the cutting edge only, and not the handle of the knife or fingers can effect it, and few I believe would have the rashness to use the knife in this situation.

Several instances recur to my recollection, of patients sinking under amputations, after having exhibited a train of symptoms similar to those detailed in the last case; but at the time not suspecting any affection of the veins, I did not examine into their state after the death of the patients. I am however persuaded, that this circumstance is a frequent cause of such deaths as follow amputations, and other extensive wounds, and I shall illustrate this observation by the following case for which I am indebted to my friend Mr. Read of Mercer's Hospital.*

* When this paper was going to press, I met with the following passage in Mr. Hennen's valuable observations on Military Surgery, concerning the various causes of death after amputation. "In some cases the veins, in others the arteries, and in others again both the veins and arteries, will be found inflamed, from the point of the stump to the very auricle and ventricle; and in many parts either lined with coagulable lymph, or filled with purulent matter to various distances. In the dissections conducted by Messrs. Dobson, Bingham and Crofton, after the battle of Waterloo, we met with no less than twelve cases where the veins were inflamed, and where at the same time purulent matter was found in the arteries with a considerable thickening of their coats."

This passage, among numerous other instances, demonstrates

CASE III.

“Elizabeth Mitchell, aged 40, was received into Mercer’s hospital 28th Jan. 1818, for a compound dislocation of the ankle joint, which accident had happened the preceding evening. She refused to submit to amputation on the day of her admission; suffice it to say, that extensive mortification nearly to the knee was the consequence.

When the suppurative line had fairly formed, amputation was again urged and consented to. During the period of the sympathetic fever, there was great disturbance of all the digestive organs; frequent vomitings; more than ordinary yellowness of the skin and eyes; the vesications that arose on the limb were filled with an orange coloured serum. On the 17th day after the accident, I amputated above the knee, making a flap of the extensor muscles, and tying the vessels with silk twist ligatures as Mr. Laurence proposes. Nothing extraordinary occurred in the operation, and

the advantages, which the surgical art is likely to derive from the extensive opportunities for observation so long afforded to our military surgeons, and which could scarcely be neglected under the present most intelligent and admirable system with which the army medical department is conducted. If I had sooner perused this work, it is probable I should have curtailed many of the observations in this paper as unnecessary.

the muscles appeared healthy, but the integuments were slightly œdematous. Matters went on well until the morning of the 5th day, (and partial adhesions of the flap had taken place) when I was informed she had passed a very bad night.

February 18, from Case Book I make the following extract :—

Pulse 114, small and easily compressible ; skin dry ; heat less than natural ; the yellow suffusion which had in some degree subsided, assumed a deeper tinge ; the tongue covered with brown fur ; did not complain of thirst ; had vomited in the night ; complained of great depression and sense of sinking about the præcordia ; sighed frequently ; a thin and foetid discharge from the stump, but small in quantity ; did not complain of any pain in the stump, except what arose from changing the dressings.

20th.—This morning she had a long and violent rigor. On examining the stump, we found all the new adhesions had given way ; the discharge like the day before, but in increased quantity ; the limb though more swollen, had the œdematous character ; pressure on any part above the face of the stump produced no pain.

I have no further note during her life, but re-

collect she had frequent severe rigors. I could not at the time trace them to any satisfactory cause, by any examination I made either of the stump, or with a view to discover if any of the solid viscera were engaged. She died the 14th day after the operation."

Dissection.

"The surface of the stump beneath the integuments had gangrened, and a large clot of blood adhered to it; the artery was uninjured, though the cellular membrane surrounding it for some distance was gangrenous; a conical clot of coagulable lymph filled it of about an inch and a half in length; the vein on being split up was found full of pus, nearly as high as Poupart's ligament; above this, it was covered with irregular patches of coagulable lymph like a soft membrane. On scraping this off, the vein appeared very vascular, which appearance was continued as far as its junction with the corresponding iliac to form the cava; which last was not inflamed. The liver was sound, and the gall bladder loaded with a dark viscid bile. Her friends being anxious to remove the body I could not examine farther."

In the three preceding cases of inflammation of the veins, we find that the disease was marked by strong rigors, great oppression and a sense of ex-

treme debility and weight about the præcordia ; these symptoms were, no doubt, owing to the formation of matter, and the influence which it must produce on the general system when mixed with the mass of blood. In this stage of the disease, it is more than probable that it would be too late to adopt with any advantage blood-letting, and the other means calculated to lessen inflammation. In fact, if pus has been already formed and mixed with the blood, it is probably no longer in the power of art to remedy the evil, and the patient can only be left to his fate. But, if after an operation or extensive wound, we should find that in four, five, or six days, the patient who previously was going on well, becomes restless and uneasy with frequent sighing, attended with a quick pulse and flushed countenance ; and if at the same time, the wound presents no appearance that can account for these symptoms, we may reasonably suspect the accession of venous inflammation. In this stage of the disorder, we should, therefore, I conceive, resort to the most active blood-letting, cathartics, abundant dilution, and other means calculated to resist the increase of inflammation, and its consequent tendency to the formation of pus. If by these measures, the progress of the inflammation is so far restrained, that no other injury occurs but the deposition of coagulable lymph, and the obliteration of the affected vein, we save the life of the patient. But there can be

little expectation of this favourable event, if rigors have already denoted the formation of matter.

It is scarcely necessary to state that after the occurrence of the first case detailed in this paper, I never ventured upon the general practice of tying the vena saphena on account of a varicose state of the veins of the leg ; and, until Mr. Brodie's proposition of dividing the branches instead of the trunk was communicated to the public, I contented myself with merely recommending the use of the laced stocking, or the application of the roller, with a view to palliate rather than cure the complaint. But this, I acknowledge, was altogether unavailing among those who are its most numerous victims, the labouring poor. For the laced stocking can only be procured at an expense beyond their means ; and few of the lower orders of this or any other country, could be prevailed on to take the trouble of daily applying a long roller with the necessary exactness.

I lost no time, however, in availing myself of Mr. Brodie's operation as soon as it became known to me. His reasons for supposing that an equal danger does not attend a wound of the branches, as an injury of the trunk, appeared to me very convincing, and the successful instances he details of his practice left no doubt of its value.

As I do not find that his operation has been noticed in any succeeding publication, it is apparent that it has not received the attention it so highly merits ; and I conceive it will be useful to the public, as well as doing justice to that distinguished surgeon, to whom the profession is already so deeply indebted, to state the cases in which I tried the mode he recommends, and with these cases, which I shall detail in the briefest manner possible, I shall conclude the present paper, which has already extended far beyond my calculation.

CASE IV.

Callaghan Mc. Carty was admitted November 13th, 1816, into the Richmond Hospital, on account of a varicose state of the veins of both legs. The right leg was selected for operation, as its veins were more enlarged than those of the other, and to an extent that I had never witnessed in any instance whatever ; there were also on this leg several superficial ulcers, which must have been connected with the veins, as the patient stated that they frequently bled to an alarming extent ; he also mentioned that the pain arising from standing was so great that he was obliged to discontinue his trade as a carpenter.

I selected for operation three groups of veins

which were particularly large and painful upon pressure; they were situated about a hand's breadth below the knee, one on each side, and one in front of the leg.—The instrument employed was made according to Mr. Brodie's directions—a curved sharp-pointed knife, with the cutting edge on the convex side.* The patient complained of considerable pain at the division of each cluster of veins, which subsided in about an hour after the operation. The hemorrhage was immediately stopped by compress and bandage.

15th. The bandages were removed, and it was found that two of the openings had healed.

22nd. The third opening had also cicatrized and all the varicose veins, with the exception of one

* It will be satisfactory to those who have not Mr. Brodie's paper by them, to give the following extract from it, which contains brief and clear directions for using this instrument. "Having ascertained the precise situation of the vein, or cluster of veins, from which the distress of the patient appears principally to arise, I introduce the point of the bistoury through the skin on one side of the varix, and pass it on between the skin and the vein, with one of the flat surfaces turned forwards, and the other backwards, until it reaches the opposite side. I then turn the cutting edge of the bistoury backwards, and, in withdrawing the instrument, the division of the varix is effected."

Medico Chirurgical Transactions, vol. vii. p. 199.

or two in the front of the leg had nearly disappeared. The pain also in the lower part of the leg which prevented him from standing at his work, was completely relieved. He was therefore discharged the hospital.

CASE V.

John Murphy, admitted November 16th, 1816—on account of a large cluster of varicose veins situated immediately beneath the inner condyle of the femur; there were also four or five small ulcers on the leg, and the complaint was attended with considerable pain, which always increased towards evening.

I determined to try in this case, if a division of the saphena vein where it passes on the inside of the knee, would prove advantageous, and therefore on the 21st cut the vein across with Mr. Brodie's knife, and in the manner he recommends for dividing the branches; this was followed by acute pain for the space of half an hour; after this operation the cluster of veins was wonderfully lessened in size, and the pain and tenderness with which the vessels had been previously affected gradually diminished. The ulcers soon healed, and he was discharged apparently well on the 16th of December. But he was re-admitted on the 9th of February following; the group of varicose veins be-

low the knee were as large and as painful as before the operation, and several ulcers had appeared on his leg, one of which had bled profusely a few days previous to his application at the hospital.

On the 11th, I divided the cluster of veins according to Mr. Brodie's plan ; a good deal of pain and uneasiness continued in the part, and a small abscess formed where the veins had been divided, which I punctured on the 18th, and which discharged about half an ounce of pus. The part soon healed, the cluster of varicose veins totally disappeared, and he was discharged the hospital well on the 16th of March.

CASE VI.

Anne Serson admitted March 24, 1816, on account of a varicose state of the veins of one of her legs, which from the pain and swelling produced by exercise, prevented her from attending to her business as a servant. A variety of palliative means had been employed without relief, except in one instance. The veins in the leg were so much swelled, that she was apprehensive of their bursting, but the opening of one of them had been attended with temporary benefit. A large painful group on the inside of the leg was selected for operation.

It was performed in the usual manner on the 26th of March, and on the 14th of April she was discharged well.

CASE VII.

Thomas M'Guire admitted May 6th, 1818, on account of a varicose state of the veins of the right leg, which had existed upwards of thirty years, but until the last year had not occasioned any inconvenience. He had also an ulcer situated above the inner angle. Immediately under the inner condyle, the veins were particularly large and tortuous and painful upon pressure. This group was divided on the day after his admission. The wound healed by the first intention, and he was discharged on the 11th.

He was desired to return to the hospital if he felt any farther inconvenience, but I have not seen him since.

CASE VIII.

John Hoey admitted June 13th, 1818, on account of an enormous enlargement of the branches and trunk of the saphena vein, through the entire extent of the leg and thigh. The complaint

was of five years' duration, and completely incapacitated him from attending to his business. There was also a small painful ulcer on the inside of the leg just above the ankle.

I divided the trunk of the saphena vein on the inside of the knee with Mr. Brodie's knife, and according to his plan. On the 18th there was considerable pain felt at the place of the incision—19th, the pain extended up the thigh in the course of the saphena vein, which was discoloured and tender upon pressure ; considerable symptomatic fever, with great restlessness and total want of sleep ; pulse quick and hard ; tongue brown and furred.

I directed sixteen ounces of blood to be taken from his arm, and the cathartic mixture ; and poultices of bread and water to be applied along the course of the inflamed vein.

21st.—A quantity of serous fluid was discharged from the place of the incision, and the pain and tension of the limb was diminished ; pulse 90. From this period, these alarming symptoms of venous inflammation gradually subsided, and he was discharged on the 5th of July. The operation completely succeeded as the varicose swelling of the veins below the incision had totally disappeared.

CASE IX.

John Kelly admitted June 27th, 1818, on account of a large cluster of varicose veins situated immediately below the internal condyle of the left leg, which was so painful during exertion as to render him totally unable to earn a subsistence. This cluster was divided in the preceding manner, and he was discharged the hospital perfectly well on the 13th of July.

Several other similar cases were operated on according to Mr. Brodie's plan with equal success ; but which I cannot give as I did not take notes. A sufficient number has, however, been adduced to evince the safety and efficacy of his operation.

It will be observed that the only case which was attended with symptoms of venous inflammation (Case VIII.) had not been treated according to his directions ; for in this case the trunk and not the branches was divided. The alarming circumstances that occurred in this instance, may seem at once to confirm the superior advantages attainable by his mode of operating, and impress upon the mind of my reader the danger which attends any injury to the trunks of the larger veins, whatever be the instrument with which the violence is inflicted,

CASE OF
INCURABLE DISEASE
OF THE
A R M,
ARISING FROM
EXTRAORDINARY CIRCUMSTANCES.

BY
RICHARD CARMICHAEL, M. R. I. A.

SURGEON OF THE RICHMOND HOSPITAL, HOUSE OF INDUSTRY, &c. &c.

A young woman was admitted into the Richmond hospital, on the 23d July, 1818, on account of a painful swelling of the left hand and arm, extending considerably above the elbow. The appearance of the limb resembled that which occurs in phlegmasia dolens; the fingers were bent; no fluctuation or symptoms of matter could any where be discovered; the pain was excessive, so as altogether to prevent rest, unless strong anodynes were employed; the symptomatic fever was considerable.

The patient ascribed the complaint to a needle, which she averred had broken in the palm of her hand about six weeks before ; and stated, that at present she felt the point of it at the back of her hand. Upon this part I immediately cut down, but was not so fortunate as to light on the needle. Warm fomentations and poultices were ordered, together with frequent mercurial cathartics, but the pain and tension gradually increased. Sometime afterwards, the skin and fascia covering the muscles a little above the wrist on the fore part of the arm, where the tension was greatest, were divided to the extent of three inches, so as to lay bare the muscles ; but this was not attended with any relief, although the incision was afterwards extended towards the palm of the hand, the original seat of the disease, by dividing the annular ligament of the wrist. A dark coloured fungus in a few days sprung up from the divided parts, which considerably projected beyond the surface of the skin.

The swelling of the arm extended to within three inches or less from the top of the shoulder, where it terminated abruptly. Diarrhæa set in, and her constitution was evidently sinking under the constant pain and irritation of the disease. Amputation was, therefore, recommended and performed on the 21st of September, close to the shoulder joint at the termination of the swelling.

The circulation was completely commanded by pressure on the artery above the clavicle, for there was not sufficient room for the application of a tourniquet.

On examining the limb after amputation, the thickening and enlargement was found to arise altogether from the deposition of lymph and serum, nor was there any where the slightest signs of supuration. The bones of the carpus and extreme ends of the radius and ulna, were observed to be so far softened as to yield, and be easily broken down by the pressure of the nail, probably owing to the absorption of the earthy principle.

In searching for the broken needle, we not only discovered what we sought, but to our surprise half a dozen others, each about half an inch in length, embedded in the pronator quadratus muscle under the scite of the incision; some of them lying between the radius and ulna, and others fixed in the periosteum of the bones. Similar fragments of needles were afterwards found by the pupils—one in the palm of the hand, and others in the fore-arm above the quadratus, but none of them had entered either tendon or nerve.

The muscle in which they lay was almost changed to a firm gelatinous structure, and they were every where surrounded by firm lymph, al-

most of the consistence of softened cartilage, which seems to be the process employed by nature to insulate such extraneous bodies from the surrounding parts, as do not excite suppuration. These fragments, ten in number, I send for the inspection of the association.

It is obvious that so many needles could never have pierced the arm, without the knowledge of the patient, who has every appearance of intelligence and shrewdness, indeed rather too much of the latter, yet on being presented with these needles the day after amputation, she solemnly declared that she knew nothing of having been wounded by more than one.—The superintendants of the Dublin Female Penitentiary, an asylum for reclaimed females, in which she is an inmate, and which is admirably well conducted, have no hesitation in attributing the infliction of these evils to herself; though it is to be presumed the extent of the punishment was little in her contemplation. She had however a taste for this kind of deception, for on another occasion she complained during an entire year, of excruciating pain in her chest, attended with paroxysms of difficult breathing, that seemed often to approach the last gasp; but after enduring such a sufficiency of blisters, and issues, and bleeding both local and general, as Doctor Mills, and Doctor Edward Percival and myself thought it prudent to

prescribe, she suddenly recovered, and with great candour acknowledged that all her complaints had been dissembled; yet to account for all this finesse, which cost her so much bodily pain, she could give no reason more satisfactory than that she had suffered herself to be seduced by the instigations of the devil; but this explication involves a still stranger incongruity, for she has the character of being remarkably devout, and is seldom without a prayer-book in her hand, and a jargon of religious cants in her mouth.—I conjecture that she is not much inclined to bodily exertion, and would rather undergo any torment than work; and possibly she may have derived some little advantages, by exciting the commiseration of the very benevolent ladies who superintend the institution; she, however, when too late, became sensible of her folly, and before the operation I have described, I heard her remark, that she well deserved the punishment she was about to suffer.

I have, I fear, unwarrantably occupied the time of the Association in detailing these circumstances, which are foreign to our usual line of investigation; but it is not often we see examples of a propensity so strong and persevering, as to gratify itself at the expense of so much absolute suffering; and, without adverting to the food it affords for reflection to the moral and intellectual

philosopher, it cannot but be useful, in a professional point of view, to be aware of the extraordinary mode in which formidable diseases are sometimes established.

ON THE
ORIGIN OF
INTESTINAL WORMS,

PARTICULARLY THE

Ascaris Vermicularis.

BY

JOHN MILNER BARRY, M. D. CORK,

&c. &c.

Read by Dr. Crampton, 7th September, 1818.

THE origin of intestinal worms has been for a long time a fertile source of conjecture, and of difference of opinion amongst medical writers.— Practical writers indeed are too much disposed to undervalue inquiries, which are not immediately directed to the cure of the disease, alledging in this instance, that it is the duty of the physician to expel these troublesome animals when they are present without being over solicitous to ascertain their mode of production. Such reasoning is calculated to check every useful enquiry into nature, and to reduce the medical art to a state of blind

empiricism. As the publication of these Transactions is evidently intended for a higher purpose, and particularly directed to the improvement of pathological as well as practical knowledge, I hope the Association will not consider the following remarks on Intestinal Worms, and the facts which have given rise to them, unworthy a place in the ensuing volume of that work.

It has not yet been satisfactorily proved that any of the species of intestinal worms, which chiefly demand the attention of the physician, has been derived from an external source. The doctrine of equivocal generation is now, however, altogether abandoned by philosophers : and the extraordinary metamorphoses which naturalists have observed in the lower classes of animals, and the no less wonderful instinctive motions which they exhibit for the propagation and preservation of their kinds, would afford a strong presumption that intestinal worms may be ultimately traced to some external origin, which has hitherto evaded our inquiries. From this observation, I will not exempt the two species of *tænia* which are now generally admitted to the human alimentary canal. The species of *tænia* found in dogs, cats, and other animals, differ from each other, and from those found in the human subject, (vid. *Systema Naturæ* Genus *Tænia*, Gmelin's edition.)

The *Lumbricus Ascaris*, and the *Lumbricus*

Terrestris, were for a long time, and are still properly referred to the same species ; and though a few obvious distinctive marks had been discovered by some of the earlier physicians and naturalists, particularly Willis and Ray, it was reserved for modern times to remove all doubts on the subject. That accurate anatomist and eminent physician, Dr. Baillie, having compared the internal and external structure of these animals, has pointed out many circumstances, which prove that they are not of the same species ;* and since the publication of the morbid anatomy, Dr. Hooper has, by a most minute investigation, established the distinction between these worms beyond dispute.

Hence it would be quite unphilosophical at present to attempt to derive the intestinal Lumbricus from the earth worm.

The *Ascaris Vermicularis* is also still generally considered peculiar to the human body, as no well-authenticated facts have yet been published, which prove that this species has been found to live and grow in any other medium. In the sequel of this Essay, I shall prove the fallacy of the opinions hitherto entertained respecting this worm, and shew by undeniable facts, that it is derived from without.

I cannot speak from my own experience of the

* Vid. Baillie's Morbid Anatomy; and Hooper on Intestinal Worms. Mem. Lond. Med. Soc. Vol. V.

Trichuris Vulgaris of Hooper, as during a practice of twenty-four years, I have not seen a single instance of this worm ; but as no proofs have been adduced of its foreign origin, I must presume, that in this respect, it rests on the same grounds with the others, whose claims I have mentioned.

But it is easy to conceive, that the minute germs of intestinal worms may be imbibed with the food or drink, and afterwards be developed, and grow in the human body. In this view of the question, the derivation of worms may rest upon the same basis of analogical, and conjectural reasoning as other legitimate deductions in medical science. Thus, if the fens of Lincolnshire are noted for having a number of the inhabitants attacked with the *ascarides vermiculares*,* and if the marshes of Holland are equally remarkable for the prevalence of *tænia*,† would any physician reject such evidence, as far as it extends, of the external origin of each of these species? For my part, I think he may with nearly equal reason deny the power of marsh effluvia in occasioning intermittent fever.

It may, however, be asked, why, of a number of persons living on the same food, and breathing the same air, some shall be attacked with worms

* Darwin.

† Baglivi.

whilst others escape ? That this happy exemption does not always occur in persons equally exposed to the same cause, I shall afterwards shew ; that it frequently happens, is the matter of daily observation, and may, I believe, be accounted for in the following manner. In healthy persons, who do not labour under any disease of the digestive organs, it is probable, that the germs of certain of the species, perish in the gastric juices ; whilst in others, less fortunately constituted, the morbid secretions, which are the result of imperfect digestion, are conducive to the development and growth of worms. It is remarkable that steel and vegetable bitters are amongst the most powerful anthelmintics ; and the obvious explanation of the agency of such medicines is, that by improving the tone and vigour of the digestive organs, they alter the secretions, and thus render them unfit for the abode of these animals. It may not be improper to observe that the analogy of vegetables seems favourable to the opinion which has been here advanced. Thus, many of the insect tribe and their *larvæ*, do not assail the roots, stalks, or fructification of vegetables, until they have been previously weakened by other causes of disease or decay. The same may be alledged respecting these minute parasytic plants, which feed upon others of a larger growth, such as the fungi which grow upon the stalks of wheat, as delineated in Sir Joseph Banks' work on the mildew, which

seems to be rather the effect than the cause of that disease.

It has been said, that worms have been discovered in the intestines of infants newly born, and even in the foetus.* But the germs of worms are so small, that they may be taken up by the absorbents, and conveyed to the embryo, with the same fluids which have served for their developement in the mother. On the whole, I think it unphilosophical to deny the extrinsic origin of worms, because there is as yet no actual evidence of their existing, and attaining their usual size, except in animal bodies.

It is certainly worthy of enquiry whether any of the ordinary species of worms of the intestines, are derived from insects.† The larvæ of some insects are produced in the human stomach, as described by Dr. Crumpe.‡ I have seen a number of these, evidently different from each other, and arising from different insects, discharged by stool and vomiting, by a woman and her daughter, the latter of whom was eight or nine years old. In the inquiry instituted by Mr. Bracey Clerke, into the causes of the bots in horses, we find a beautiful and successful application of knowledge in Natural History, to an analogous

* La Marck.

† Darwin.

‡ Mem. R. I. A. 6th vol

subject, in which he has traced the bot to the *æstrus equi*.*

By the foregoing reasoning I undertake to prove, that if we should even fail in discovering that any of the species of intestinal worms, are capable of developement, of sustaining life, and attaining maturity, without, as well as within, the human stomach and intestines, we should still not be justified in abandoning the notion of their extrinsic origin; but if it could be satisfactorily proved, that any of these species could be traced to its own species externally, such a discovery, besides leading to useful practical results, would certainly be the strongest evidence which could be adduced, as far as respects that individual species, as conjectural reasoning, however ingenious, cannot be equally strong.

It is now above twenty years since I made a discovery of this nature, respecting the *ascarides vermicularis*, which I have held back with the view of acquiring further information on the subject. Perhaps the publication of the facts may be more conducive to this, than the limited inquiries which any single practitioner has it in his power to make; and I therefore give them to the public.

Linnæan Transactions, vol. 3d.

In the month of April, 1797, Mr. H——, from the neighbourhood of Macrump in this county, consulted my late lamented friend, Doctor Longfield and myself for the removal of the *ascarides vermiculares*, with which he and his wife and children were most severely afflicted; the symptoms were such as usually denote the presence of worms of this class, and do not require any description. The account which Mr. H—— gave us was as follows. The *ascarides* first attacked himself and family about three or four years before, after coming to reside at —— within two miles of the town of Macrump, where he has built a comfortable house; there is on the ground a spring of very fine water, which supplied his house for drink, culinary purposes, and washing: it appeared to be of the purest kind, and was the common beverage at meals for himself and family, either in its purity, or in tea, or mixed with spirits; this water he however suspected for many reasons to be the source from whence the *ascarides* were derived. There is no unusual appearance in the water itself to countenance this opinion: but Mr. H—— remarked, that strangers, after residing at his house for any time, were sure to be attacked with the *ascarides*; several servants who lived with him have never failed in a few days to pass those worms, and after a longer residence have become affected in the same degree with the rest of the family, and continued to be tormented with them, while they remained in his service.

He further stated, that having had occasion to go from home for two months on business, in the course of the preceding summer, he requested that his brother would take care of his house and grounds during his absence—that his brother was at that time in excellent health, but was not many days in the place before he was seized with the usual precursory symptoms, and for the first time in his life passed a great number of *ascarides*. In the mean time the absence of Mr. H—— and such of his family as accompanied him, had an opposite effect of a salutary nature, as they were all greatly relieved from the *ascarides* before the termination of the two months, without having had recourse to medicines of any kind. He had however, no sooner returned to his own house, than his old enemies again assailed him, and those who had enjoyed a temporary cessation from pain and uneasiness by having accompanied him, with all their former virulence: and have never since ceased to torment him and his entire family without distinction. After prescribing an artificial Harrogate water, and giving some directions, Doctor Longfield and I were both so struck with the preceding facts, which seemed to lead pretty clearly to the conviction, that these worms were derived from the water of the spring, that we requested Mr. H—— to examine the water very minutely from time to time, in order to ascertain whether the worms might not actually be

discovered in it, at certain seasons. Having some time after, had occasion to pay a professional visit to Macrump, I met Mr. H——, who informed me that such was the continual uneasiness and torture which he and his family experienced from the *ascarides*, that it nearly destroyed all enjoyment of his existence: and forced him at length to leave his residence, and come into the town of Macrump to live. It was with the greatest reluctance that he was induced to take this decisive step, as it was in other respects his interest and his inclination to remain: but he declared that the sufferings of his family admitted neither of palliation or cure by ordinary means: the evil seemed daily increasing, and his flight was accelerated, by a discovery, which had been recently made by Mrs. H——, who in her daily visits to the spring, on which their suspicions had been long fixed, actually discovered myriads of dark coloured little worms in the water, which resembled in every respect, but in colour, the *ascarides* which the family were in the constant habit of passing from the bowels. The cause of their sufferings was now demonstrated beyond dispute, and it appeared to him that there was no other alternative but removal, to save them from protracted uneasiness, pain and anxiety. Mr. H—— concluded by stating, that the worms were at that very time visible in the well, and that he would have great pleasure in accompanying me

to the spot, that I might be enabled to decide for myself on the truth of his report by actual observation.

As I felt considerable interest in the subject, I accepted Mr. H——'s invitation, and rode to the place, which is situated about two miles from the town of Macramp, in a western direction. The spring was in the centre of some marshy ground, adjoining a coarse schistous rock to the north, and on the south by the river Lee, which divides into several channels at this place, and forms numerous woody and marshy islands. On agitating the water of the spring gently, I perceived incalculable numbers of little animals moving rapidly through it in all directions. I immediately caused some of them to be taken out by means of a jug, that I might have an opportunity of closer inspection. They varied in length from half an inch, and under to nearly three quarters of an inch, tapering gradually from the head to the tail, which ended in a point. They were proportionably different in bulk, the largest being as thick as a stout pack thread, and the smallest so minute as to be scarcely visible without the help of a magnifier; with others of all the intermediate degrees of size. The colour of the largest worms, and those of a middle size, was dark brown when taken from the well; but upon wiping them gently with a napkin, the colour changed to a very pale yellow, of

which colour were numerous small worms ; some of which, as I have stated, were visible only by the help of a magnifier.

Upon comparing the worms of the well with those discharged from the bowels, the resemblance was exact in shape, and external appearance. The largest worms from the well exceeded in size those passed from the body, but not remarkably ; and they differed also in being dark coloured. This difference of colour may be urged as an objection to the common origin of the ascarides from the well, and those of the intestines ; but we have the authority of Hooper for the fact, that ascarides of a brown colour are sometimes discharged from the body ; and there are numerous instances to shew, that animals as well as vegetables become light coloured by immersion in darkness. Thus Sennebier mentions on the authority of Scheele, that the *nereis lacustris* is red whilst living in places accessible to the sun's rays, and white when living in obscurity : and Mr. Dorthes* affirms, that most of the larvæ of insects inhabiting the interior cavities of animals as well as of wood, fruit, the earth, &c. are white ; and that having forced many of them to live under transparent glasses exposed to the light, their whiteness was gradually changed to a brown colour.

* Annales de Chem. vol. ii.

A learned naturalist, who has done me the kindness to peruse these papers, objects that the ascarides of the well may have been of a different species from those which occur in ordinary cases ; and alleges that to render the proofs perfect respecting the identity as to species of the ascarides of the well, with those discharged by Mr. H——, (which he allows to be the same,) and the ordinary intestinal ascarides, they should be minutely compared in their anatomical structure. He conceives that the ascarides of the well may have a tendency to pass off entirely, through the alimentary canal, and to leave the bowels quite free from these troublesome inmates, if there were not the power of renewal from the water of the spring : resembling in this respect the larvæ of certain insects, which are only occasional inhabitants of the intestines ; whereas, according to this gentleman, the real intestinal ascarides continue to transmit the species in the same person during a number of years, under various vicissitudes of climate and modes of life.

I mean not to deny, that it would be very satisfactory to compare the anatomical structure of the ascarides derived from the spring, with others from persons at a distance from its sphere of action ; but, I regret, for the advantage of Mr. H. and his family, that the conjectures of my learned friend, as to the transient habits of the

ascarides of the well, are not supported by the fact. It unluckily turns out, that this race is not only fully endowed with the inherent qualities of teasing and tormenting, for which other branches of the same family have been time out of mind distinguished, but are also capable of transmitting them without any renewal of germs from the well. Mr. H. and his family have never been wholly free from these worms, during the years which have elapsed, since he was driven from his former residence, though their numbers having never been so great, nor the sufferings of him and his family so intolerable, as when they resided near the prime source of the mischief.

MEDICAL REPORT
OF THE
FEVER HOSPITAL,
AND
House of Recovery, Cork Street,
FOR THE YEAR
1816.

TO WHICH IS ADDED,
SOME ACCOUNT OF THE SUCCEEDING EPIDEMIC, EX-
EMPLIFIED BY CASES LATELY ADMITTED INTO
THAT HOSPITAL.

By WILLIAM STOKER, M. D.

PHYSICIAN TO THAT HOSPITAL, AND LICENTIATE OF THE KING'S AND QUEEN'S
COLLEGE OF PHYSICIANS, &c. &c.

THE first part of this report was drawn up in conformity with a resolution of the Managing Committee, "that at the end of every succeeding year after the opening of the hospital, an account of the progress of the particulars connected with it, shall be printed for public information." Its design, therefore, did not admit of minute medical detail, and the expedition required offered, and still must plead its apology, for though several corrections and additions have been made to it, other avocations did not allow time to recast it altogether.

The origin, plan and general economy of the Fever Hospital, and House of Recovery in Cork-street, have been already very fully detailed to the Public in the annual Reports, by the Managing Committee, and by the physicians of that institution; recapitulation upon these subjects is unnecessary, as our former publications have been very generally circulated, both in their primary form, and in several of the periodical journals.

The objects of this report, therefore, will be chiefly additional evidence of the utility of the establishment, the causes found to counteract its success, such improvements in the original plan as have been suggested, practical observations on fever and its curative treatment, illustrated by tables; and lastly, the epidemic of the year, and how far its peculiarities seemed to be produced by the season, or were modified by medical treatment.

The benefits directly conferred by this institution, on all classes of society in this metropolis, have been so general and obvious, that probably there are few or none who entertain the least doubt of its great utility; and indeed the relation of a single fact must alone remove any remaining scepticism on that subject, that within thirteen years, which have nearly elapsed since the foundation of this establishment, more than twenty three thousand persons, labouring under fevers,

have been admitted into its wards ; and farther if rightly considered “ that, on the most moderate calculation, the removal of one fever patient, even from the situations where circumstances do not concur to promote its propagation, prevents the infection of three persons ; but the removal of one from crowded and ill-ventilated buildings, may prevent the disease in a whole district.”* Hence on the most limited scale, the protecting influence of this institution must have extended to more than one hundred thousand persons ; besides, the situations from which the patients were removed to this hospital, were very generally such as would be most likely to promote the generation of disease, and increase the virulence of its contagion ; and were accompanied by circumstances tending to its wide propagation.†

The efficacy of Institutions, in checking or subduing contagion, is proved by satisfactory reports made from similar establishments in Cork, Waterford, Limerick, Chester, Manchester, and London.

* Remarks on the necessity and means of suppressing contagious fevers, by C. Stanger, M. D. London.

† See an essay on the Population of Dublin, by the Rev. James Whitelaw, 1805 ; also, annual reports, by the physicians of the fever hospital and house of recovery, Cork-street, 1805, 6, 7, 8, 9 and 1810.

In a statement respecting the House of Recovery at Waterford, for the year 1800, it is calculated that in one year and five months after its establishment, there was a reduction in the numbers in fever, amounting to thirteen hundred. In Manchester, where population is dense, and where infectious fever had been formerly prevalent, the effect of one House of Recovery was so remarkable, that in one year the number of fever patients in a large district surrounding the house, was reduced from four hundred and twenty-one, to twenty-six, and those of the General Infirmary to one-fourth; and in an extensive district of London, including St. Giles's, Bloomsbury and Saffronhill, comprising a dense population, chiefly of the lowest class, common fever was seldom or never observed in the latter part of 1809, nor in the early months of 1810.*

I might multiply similar extracts, from the reports of other fever institutions, but these probably are sufficient; and our institution established and conducted with great care, and on a greater extent than any which preceded it, aided by all the improvements in the means of prevention, which experience suggested, must have had proportionably salutary effects, though causes which our system could not control, have pre-

* See Report of the Fever Hospital and House of Recovery, Cork-street, for the year 1810, by R. Gamble, M. D.

vented that direct evidence appearing, from the numerical statements which the records of our hospital afford.

The following table exhibits the diminution of average mortality, which appears to have been gradually and almost constantly progressive, through a successive series of years since the opening of the hospital.

Year,	1804	1805	1806	1807
Died,	1 in $13\frac{3}{15}$	1 in $10\frac{1}{97}$	1 in $12\frac{1}{44}$	1 in $11\frac{3}{31}$
Year,	1808	1809	1810	1811
Died,	1 in $11\frac{2}{45}$	1 in $13\frac{1}{80}$	1 in $11\frac{1}{75}$	1 in $12\frac{2}{11}$
Year,	1812	1813	1814	1815
Died,	1 in $13\frac{4}{11}$	1 in $16\frac{5}{163}$	1 in $16\frac{1}{141}$	1 in $19\frac{1}{191}$
Year 1816,	1 in $16\frac{0}{173}$			

The average mortality for several of the first years, being about 1 in 12 ; in the three years from 1812 to 1814 inclusive, about one in fifteen ; and in 1815, little more than one in twenty. The increased mortality in the year 1816 may be accounted for, along with a remarkable fact, that the proportion of deaths to recoveries is greatest when applications are fewest, which probably is owing to a greater proportion of persons labouring under diseases more fatal than fever, being then admitted.

It is remarkable, that a decrease nearly similar in the mortality, took place in the fever hospitals of * Manchester and Waterford,† some time after they were established. In the former, from the proportion of one in nine to one in eighteen ; and in the latter, the proportion was, some time after its establishment, reduced so low as one in twenty.

It should be observed, that the mortality stated in the foregoing table was not that of fever alone, nor of cases treated in this hospital, because many of these, as mentioned in the former reports, died of diseases which preceded, supervened on, or succeeded to the febrile affection, or died shortly after or during their removal to the hospital.‡

The succeeding table exhibits facts next in importance to the diminution of the mortality, whether they regard proofs of increasing mildness in the epidemic of Dublin, or of improvement in the mode of treating it in this hospital. It shews that there has been a considerable reduction in the average time from admission to dismissal, and a reduction of the expense nearly one half, these averages having been accurately calculated from registries of the dates of admission and dismissal, and of the expenses, carefully kept since the hospital

* Medical Essays, by T. Percival, M. D.

† Account, &c. of House of Recovery, Waterford.

‡ See former Reports, &c.

opened. It is probable, however, that the continuance and effects of fever on individuals, have been shortened more than appears from this table, as it is well known that the sick apply for admission much earlier than they had done for some years after the hospital was opened; the reduction of the average expense, connected with that of the mortality, is the more interesting as a medical fact, because that reduction must have taken place chiefly in medicines, wine and spirits, the price and quantity of the articles of food not having had any corresponding variation.

<i>Period.</i>	<i>Average Number of Days, patients remained in Hospital.</i>	<i>Average expense of each patient.</i>	<i>Average expense of each patient per day.</i>
From 14th May 1804, to 4th January 1805,	$16\frac{1}{4}\frac{1}{2}$	£2 9 0 and fraction.	£0 2 11 $\frac{1}{2}$ nearly.
— 5th Jan. 1805, to 4th do. 1806,	$15\frac{18}{100}\frac{1}{8}$	1 16 4 and fraction.	0 2 3 $\frac{1}{2}$
— 5th do. 1806, to 4th do. 1807	$15\frac{56}{100}\frac{7}{8}$	1 16 2 nearly.	0 2 4 nearly.
— 5th do. 1807, to 4th do. 1808	$14\frac{8}{100}\frac{3}{4}$	1 19 5 and fraction.	0 2 9 nearly.
— 5th do. 1808, to 4th do. 1806	$16\frac{56}{100}\frac{7}{8}$	2 4 5 nearly.	0 2 8 $\frac{1}{4}$ nearly.
— 5th do. 1809, to 4th do. 1810	$14\frac{73}{100}\frac{6}{8}$	2 8 10 and fraction.	0 3 3 $\frac{1}{2}$ nearly.
— 5th do. 1810, to 4th do. 1811	$14\frac{18}{100}\frac{1}{4}$	1 18 10 nearly.	0 2 8 $\frac{1}{4}$ nearly.
— 5th do. 1811, to 4th do. 1812	Not calculated.	2 3 8 nearly.	
— 5th do. 1812, to 4th do. 1813	do.	Not calculated.	Not calculated.
— 5th do. 1813, to 4th do. 1814	do.	do.	do.
— 5th do. 1814, to 4th do. 1815	$13\frac{5}{8}$	1 15 3 nearly.	0 2 5 $\frac{11}{100}\frac{3}{10}\frac{5}{100}$
— 5th do. 1815, to 4th do. 1816	$13\frac{1}{10}$	1 6 0	0 1 11 $\frac{26}{100}\frac{5}{100}\frac{7}{100}$
— 5th do. 1816, to 4th do. 1817	$14\frac{3}{4}$	1 10 0	0 2 1 $\frac{6}{100}\frac{3}{100}\frac{4}{100}$

The following table exhibits the total number of patients admitted into the hospital, in each of the last seven years, a period, during which admission has been confined to the same extent of district and description of persons.

From 5th Jan. 1810, to 5th Jan. 1811, 1774.

— 5th Jan. 1811, to 5th Jan. 1812, 1478.

— 5th Jan. 1812, to 5th Jan. 1813, 2273.

— 5th Jan. 1813, to 5th Jan. 1814, 2620.

— 5th Jan. 1814, to 5th Jan. 1815, 2398.

— 5th Jan. 1815, to 5th Jan. 1816, 3787.

— 5th Jan. 1816, to 5th Jan. 1817. 2785.*

* The great salubrity of the year 1816 over Great Britain and (*a*) Ireland, was remarkable, extending to most other parts of Europe, and even to America; (*b*) and as extraordinary humidity of atmosphere is said to have prevailed over the same countries, during the same time, it may be inferred, the former was considerably influenced by the latter. See abstract from Meteorological Tables in a future page.

(*a*) From my much esteemed friend, the Director General of Hospitals, and chief of the Army Medical Department in Ireland, I have learned, that the returns made to him, shew that our army in this country was more healthy during the last year, than in any equal period.

(*b*) See report of the President's Speech to both houses of Congress, dated Washington, December 4th, 1816.—*Courier*, January 1, 1817.

The numbers on the whole of the seven years, notwithstanding the very great reduction in the last year from that which preceded it, being increased in a formidable ratio, and when we add the many admitted into the fever wards of other hospitals* in Dublin, and also those attended by physicians from dispensaries, and probably a still greater number, who never apply to these institutions, it may be asserted, that no other city has, with reference to its population, produced so formidable a list of sufferers from infectious fever, for so long a continuance.

The question arising out of these facts, in itself so interesting to every humane inquirer, is not to be solved by the climate or situation of our city, both of which may be esteemed healthful ; neither is it by the arrangement of our streets, which, even in the oldest and most irregular parts, are wide and spacious ; besides, there are some grounds for believing, that fever had not been nearly so prevalent in Dublin as it has been in the last twenty-five years,† and, therefore, for

* Sir Patrick Dunn's Hospital, Dr. Steevens' Hospital, Hardwick Fever Hospital, and St. George's Dispensary.

† I am inclined to the above opinion from what I have heard from some much respected medical friends, much longer acquainted with the state of disease in Dublin than I have been ;

hoping that its sources are not of a permanent nature.

Many incidental circumstances have successively tended to increase the number of patients which appear on our registry ; such as the extension of district, the opening of the hospital to certain description of persons, and to those affected with certain eruptive fevers, who were not admissable previously, sometimes, also, the great influx from the adjacent country ;* but extreme poverty, and its sad attendants, seem to have been the great and most constant source of the evil with which this institution has to contend, being connected with it in succession and degree, as cause and effect.

It would be misplaced to enter fully on these subjects here, or to attempt the more difficult task of tracing the origin of evils, which have been long oppressing our labouring poor, and from their inveteracy, will require vigorous and long-continued exertions for their removal.

and, because I think, had fever been so prevalent as it has latterly been, more extensive accommodations for persons labouring under that disease, would have been provided in the hospitals of Dublin ; most of these of longest standing having been established by the exertions or private fortunes of physicians.

* This influx of patients has been most remarkable during the last two years.

There are, however, some peculiar circumstances that seem to have influenced the production and growth of infectious fever in Dublin, which should not be passed unnoticed, being important, as well to the political economist as to the physician, assisting to guide the one to the most effectual form of medical police, and to direct the other to a remedy for fever by illustrating its nature.*

From a subsequent table it will appear probable, that for many years the females far exceeded the other sex amongst the labouring classes of society in Dublin; and the effect of this disproportion has been, that adult females, whose duty had been to provide and prepare wholesome food, and to attend to the cleanliness of the persons and residences of their families, were compelled to undertake the employments which had been sustained by men; the aged, the infirm, and the helpless young, (their immediate care) being thus neglected, filth of all kinds accumulated around

* It is but just to state, that great exertions have been made, by societies formed from among the humane and affluent, to counteract these circumstances; such as the Committee connected with the Institution for the sick poor in Meath street, such were those which established other Dispensaries; and that which, with so much humanity and zeal, conduct the still more effectual Institution which is the subject of this report.

them ; their habitations became runious, and their apartments, into each of which numbers crowded, in order to lessen, by dividing the expense of rent and taxes, became so many laboratories of noxious vapours, sometimes more like the neglected cemeteries of the dead, than habitations for the living.†

Under such circumstances, the ordinary system of police, for cleansing the streets, avenues and entrances to their houses, unaided by their own exertions, must have been often ineffectual ; and these residences being remote from the opulent, the sufferings of their inhabitants continued for a long time to increase, unknown to those who might have interposed their power or wealth in their behalf.

Their diet is in general scantily supplied; their clothing is insufficient by day, and it is often their only covering by night, thus rendered offensive by imbibing the acrid exhalations from within, and the pestilential vapours around them, necessarily contributes much to produce infection, and to render that infection virulent. I believe but few adults of the families of manufacturers residing constantly in the Liberty, or other parts of Dublin, occupied by the lower orders, escape frequent attacks of fever in the course of even a

† See Howard, on the state of the Prisons, &c. page 467.

short life ; and from them its contagion is carried in various modes, and in all directions ; generally committing greater ravages on those constitutions which it afterwards affects, than amongst those where it appeared indigenous, and who might be said to be seasoned to it from their birth ; for though it does not appear that typhus fever gives immunity from future exposure to infection like the Exanthemata, I no longer doubt that succeeding attacks are generally milder than those which preceded them.

Many years continuance of misery has nearly extinguished all that hope and buoyancy of spirit for which the poor people of this city were remarkable in their better days ; these have been succeeded by indifference to their situation, or the encroachments of disease, or even death itself—surprising and unaccountable to a casual observer—which is more to be deplored, as it leads many of them to neglect the means of preservation when afforded.

In the first of our Reports from this Institution, the origin of Fevers was traced from places where animal substances, in a state of putrescence, were accumulated ; and in a subsequent Report* it was

* Annual Report for 1812, page 13.

Doctor Edward Percival in his able investigation of contagious propagation, introduced in his paper on the Epidemic

stated as probable, from many circumstances' that the infectious miasmata, arising from such substances, when in its nascent state, is capable of producing its deleterious effects in a much wider sphere than that arising from the febrile patient himself. From this consideration I am induced to call public attention to some situations, which, both from being productive of such exhalations, and supplying a pernicious article of diet to the poor of the city, have I think, been productive of much evil ; these are shops opened in the houses of several streets, by-lanes, and the more obscure parts of the public markets, for the sale of spoiled and tainted meat, and the refuse of the slaughter-houses ; the odour from such places is generally extremely offensive, even to the passenger ; all of which might be corrected, perhaps, if a market were established, where the cheap kind of animal food might be collected for sale, and where the proprietors of the shambles should be compelled, by penalty, to use sufficient means of preventing putrescence.*

Fevers of Dublin, inclines to the opinion of Doctor Bancroft, that animal substances in a state of putrefaction do not produce fevers of any description, Other circumstances indeed may have contributed to the production of the infectious miasmata as stated above, but certainly in this and many such instances I have witnessed, the putrifying animal matter seemed to have a considerable if not the chief share.

* On consulting my learned friend, the Seneschal of the

There has been frequent occasion, in drawing up Reports from this Hospital, to point out circumstances which evinced how pernicious the use of ardent spirits is to the labouring poor, an increase in the number of fevers sometimes appearing proportioned to the causes which tended to the more unlimited recourse to that article ; and it is probable, that the reduction of patients in the year, 1816, amounting to a thousand cases less than in the preceding year, is partly attributable to greater facility of getting wholesome food, and the cheapness of beer and porter leading to their substitution for whiskey ;† hence, two for-

Earl of Meath's Liberties, I find that there are already laws which, if duly enforced, would be sufficient to correct such nuisances, particularly an act for establishing Market Juries in the cities. Anno Regni vicissimo septimo, Georgii III. Regis, Cap. 46.

† As I think that much good might be expected to arise from the statute of which the following is an extract, I cannot but regret, that any alteration has been made to render it ineffectual. " Be it enacted, that no person shall recover in law or equity, any sum of money, or demand for Spirituous Liquors sold, unless such debt shall have been really and bona fide contracted at one time to the amount of Twenty Shillings." By the Spirit Licence Acts, however, (the 55th and 56th Geo. 3d,) the words " Twenty Shillings" are altered to the price or value of " One Pint," an alteration by which, according to the experience of my learned friend above mentioned, the salutary effects of the former law are prevented.

midable opponents to our preventive system being in a great degree removed ;—already, indeed, the incseased frequency, as well as severity of the cases of fever admitted into this institution since the commencement of the current year, prove the pernicious effects of a contrary state, with respect to the above articles.

I shall not dwell longer on such distressing subjects, which, but for the reasons already assigned, I should not have attempted to describe, these having been already executed by more able hands ; but however feebly I have stated what I have seen, it may bring the humane reader to behold and assist in relieving such miseries—then my leading object will be obtained. Should there be any so fastidious as to turn away disgusted from such scenes of wretchedness, and too readily take for granted, that poverty and vice are always proportioned, the conclusion would, in the present instance, be most erroneous ; for here the greatest distress has not had the same baleful effect as amongst the lower orders of other countries—it has not urged the commission of crimes revolting to the laws of humanity, marking a parmanent moral debasement ; and though its victims are often so indifferent to the possession of life, they have too much respect for sacred laws, ever to rid themselves of its vexations by their own hands ; nor are they prompted

+ by the desperate phrensy of want, to take away that of another; virtues, however, of a less negative character, give to their present situations a stronger claim upon general commiseration, such are their strong attachments to their families and to their country, their patience and their gratitude to those who serve them.

The generous attention already shown by the affluent, in their benevolent exertions* for the relief of the indigent inhabitants of the Liberties of Dublin, and these having been often munificently aided by government, as evinced by the institution, which is the subject of this report, afford hopes, that great as the effort must be that can remedy evils so extensive and inveterate as those in question, an adequate plan will be devised, in assistance of the means of prevention already in use, by which not only those incidental causes that now produce and spread this formidable disease through our city, will be taken away, and the disease itself extirpated—a disease which, I am persuaded, has, to a considerable degree, depopulated those parts of the town where it first appeared.

* The success of these exertions became very remarkable since the above was written, for this metropolis was not more than usually affected by fever, so long as its poor were supplied with wholesome food, from the funds raised to stay the famine which already prevailed in many parts of the country.

This depopulation would probably be more obvious, but that numerous families of the daily labourers who resort to Dublin from the country, have succeeded to the habitations formerly possessed by the wives and children of weavers and artisans ; a conjecture rendered the more probable by a remarkable change in the proportion of the sexes admitted in the earlier and latter years, since our hospital was established ; formerly the females far exceeded the number of the other sex admitted, but the numbers of each have gradually approximated, and in the last year the males formed the majority, as seen by the following table, viz.—

<i>Year.</i>	<i>Males.</i>	<i>Females.</i>	<i>Total.</i>
1804	188	227	415
1805	474	550	1024
1806	592	672	1264
1807	505	595	1100
1808	512	559	1071
1809	461	591	1052
1810	800	974	1774
1811	685	786	1471
1812	1063	1202	2265
1813	1159	1468	2627
1814	1017	1374	2391
1815	1820	1960	3780
1816	1398	1365	2763

Whether small or large wards were to be preferred, for those labouring under contagious fever, being hitherto undecided, experiments were desirable, which might lead to satisfactory conclusions on a subject of great importance, and necessarily of much interest to those engaged in directing the economy or medical treatment in fever hospitals ; to some the former seemed preferable, on account of their affording the means of separating the patients, and of avoiding the inconvenience of the patients disturbing each other, and the shock which the appearance of death must at times occasion.*

The large wards were recommended by their more complete ventilation, and the smaller surface, to which contagion can attach itself ; both of these last considerations are of great moment, and acquire importance from all the facts which have been collected respecting the agency of contagion through the medium of the atmosphere, by which alone we are able to form any conjecture of its nature, such as its gravity, its adhesiveness, and that the narrower the bounds by which it is confined, the more deleterious are its effects ; thus, the contagion of the plague, when condensed by being long confined in large packages or bales of silk, has been known so powerful as to strike those employed about them with sudden death.

* See former annual Reports, &c.

A comparative trial, as to the relative advantages of small and large wards having been instituted in this hospital, on an extensive scale, I shall here report its progress for three years.

The small wards in number 32, each containing three beds, are arranged on each side of a long gallery, that extends the whole length of the eastern wing of the hospital, the dimensions of each of these are 16 feet by 11 feet 3 inches, and 10 feet and a half high.

The large wards, four in number, each with 10 beds, are contained in the western wing, 116 feet distant from the former, the dimensions of each of which are 31 feet by 31 feet.

Each of the small wards is ventilated by the door, window, fire place, and a tube inserted in the extremity of the ceiling, most remote from the fire place, and continued to the upper part of the house, and lately more extensive openings have been made, on the suggestion of Dr. Haygarth, with the same view, and with evident advantage. In July, 1813, however, it was deemed advisable to place fever patients in the large wards, which had been hitherto appropriated to those in fever, which were crowded beyond the original intention, and partly for trial ; at the same time, the centre house, which had been some time built, was prepared for those in a

state of convalescence, and both the eastern and western buildings have been almost constantly occupied since with the sick.

The number of beds in the eastern wing are 67 ; in the western, 40 ; and the number of patients which pass through each in every quarter in the year, as given in the following table, may shew, proportionably to the number of beds, the relative advantages of the two situations in promoting the quickness of the recovery of fever patients.

<i>Patients admitted in each Quarter, for three Years.</i>	<i>Admissions.</i>		<i>TOTAL.</i>
	<i>East Wing.</i>	<i>West Wing</i>	
From 1st Jan. 1814, to 1st April, 1814,	333	156	494
— 1st Apr. 1814, to 1st July, 1814,	324	167	491
— 1st July, 1814, to 1st Oct. 1814,	385	205	591
— 1st Oct. 1814, to 1st Jan. 1815,	481	334	815
— 1st Jan. 1815, to 1st Apr. 1815,	442	316	758
— 1st Apr. 1815, to 1st. July, 1815,	597	318	915
— 1st July, 1815, to 1st Oct. 1815,	698	382	1080
— 1st Oct. 1815, to 1st Jan. 1816,	706	321	1027
— 1st Jan. 1816, to 1st April, 1816,	514	260	774
— 1st Apr. 1816, to 1st July, 1816,	461	275	736
— 1st July, 1816, to 1st Oct. 1816,	334	259	593
— 1st Oct. 1816, to 1st Jan. 1817,	371	290	661

Several circumstances essentially necessary to attend to in conducting the foregoing experiment, especially that the bad cases should be equally divided between both descriptions of wards, not having been hitherto rigidly observed, conclusions from it are not to be implicitly relied on ; but if continued and more carefully attended to, must lead to satisfactory and decisive results.

Until such results are obtained, it would be premature to express any decisive opinion ; but having, as well as those who were my colleagues at that time, entertained a very favourable opinion of the arrangement of small wards, which we found on the opening of the hospital, and having so expressed ourselves in the first report, I am the more desirous on the present occasion, though I have taken another earlier opportunity of stating, that my preference latterly leans much more to the larger wards ; this preference has arisen from finding, that during my attendance in the large wards, they were more free from the offensive odour, which on some occasions it seemed impossible to prevent by any exertions of cleanliness in the small wards—the medical attendants and nurses did not seem to be so frequently infected ; and those gangrenous sores which are apt to come on in bad fevers, did not occur so frequently, nor

were they as obstinate to cure as I had found them in the small wards.*

I will relate an occurrence very analogous to others I had witnessed, which contributed to increase this latter tendency in my opinion, as they seemed to shew, that contagion, agitated or diluted in the air of spacious apartments, is rendered thereby much less active. On the 15th of last May, a case of confluent small pox, as sometimes happens, was admitted before the eruption appeared, and was put to bed in one of the large wards ; in two days afterwards, a patient with simple fever, sixteen years of age, was placed in the next bed to the former, and both beds happening to be in one of the corners, their distance asunder was less than three feet ; the small pox went through its regular course, and it was not till eight days after the admission of the patient in fever, that I learned he never had the small pox ; my concern for the risk he ran, induced me to make inquiries about him for some weeks after he was dismissed from the hospital, and was happy to find that he had, at that time escaped the contagion ; and as it appears from Dr. Haygarth's investigation,† that few of those who are susceptible escape,

* This question seems now generally decided in favour of large wards, as they are commonly preferred by those who have been latterly engaged in erecting new Fever Hospitals.

* See enquiry, &c. by John Haygarth, M. D.

when long exposed so near a person labouring under small pox, it may be fairly assumed, that this person's immunity was, in a great measure, owing to the open space in which he was placed.

On another occasion, I have proposed what I believed might increase the advantages of large wards, namely, to have one or two additional wards of smaller size adjacent to each of the large ones, whither such patients as were in a hopeless condition, or become violent by delirium, might be removed or carried in the first instance.*

From several of our former annual reports it appears, that the epidemic of different years does not exhibit much variety, and we still find that the typhoid characters of the fever modified by the prevailing state of contagion, are generally to be discovered; and the influence of predisposing causes, such as the peculiar state of the patient, however induced, or of the vicissitudes of the seasons, has very similar effects.

In the first or winter quarter of the year 1816, as appears from the foregoing table, a greater number of patients were admitted into the hospital, than any in the corresponding quarters for the preceding three years, or during any equal period in the same year; this may be supposed to have ari-

† See Treatise on Fever, &c. &c. 1814.

sen from the active virulence to which contagion had arrived in the autumn, supported in a considerable degree, by the close confinement in their crowded and ill ventilated apartments, to which the poor are compelled, by insufficient clothing, and the inclemency of the weather : and typhoid and dysenteric symptoms then mingling with prevailing catarrhal affections, produced a combination which is always formidable.

In the spring months fevers assumed more of an inflammatory type ; few could be traced to contagion, but many to the inflammation of some vital organ, especially of the thoracic viscera, the greater mortality, which appears from the annexed table, during that quarter was attributable to the omission of timely and adequate depletion by the lancet, the *long established* and *only effectual* remedy in such cases, application being made at the hospital too late for it to be successful.*

As summer advanced, the numbers who applied for relief diminished very considerably, not being much more than half as many as were admitted during the same period in the preceding year ; the

* It may be asked why such cases are admitted into an hospital designed for contagious fever alone ? The debility produced by inflammatory disease, gives a strong predisposition to be affected by the contagion of fever.

great diminution during this quarter must, I think, besides the favourable circumstances which influenced the reduction on the whole year, be attributed to the very moderate temperature at that time, and is an additional proof how much the activity of contagion is promoted in general by the summer's heat; affections of the biliary organs were then most prevalent, and connected with these, as generally happens, the functions of the brain were often interrupted; hence delirium, stupor, coma, in some cases leading to effusion on the brain.

In autumn, the symptoms arising from a disordered secretion of bile were general, which, probably, as well as in the former season, were connected with the unusual degree of moisture in the atmosphere; the moderate temperature still, however, continued to have a favourable effect in allaying those symptoms termed putrescent, which generally prevail most in the autumnal months, such as petechiæ, gangrenous sores, and tympanic affections of the abdomen, none of which occurred so frequently as they had done in the corresponding months of foregoing years; and, hence, the diminished mortality at that time.

The following table exhibits the numbers admitted, and those who died in each quarter of the year 1816.

Patients admitted from 1st Jan. to the				} 774,	1st qr. died 49
1st April, 					
Do.	1st April to the 1st July,			736,	2nd do. do. 56
Do.	1st July	1st Oct.	593,		3rd do. do. 35
Do.	1st Oct.	1st Jan.	660,		4th do, do. 35
				<hr/>	
Total admitted,				2763	total died 175

None of the physicians, or of the other medical attendants belonging to the hospital, were affected by the contagion of fever in the course of the year 1816; and fewer of the nurses or servants than in any former year. Scarlatina was rarely observed in the wards in that year.

EXPLANATION

OF THE

Meteorological Table.*

The first Column contains the Month.

The second, third and fourth Columns shew the greatest, least and medium height of the Barometer at 10 AM, and 10 PM.

The fifth, sixth and seventh Columns shew the greatest, least and medium height of the Thermometer at 10 AM, 4 PM, and 10 PM.

The eighth and ninth Columns shew the number of fair and wet days.

The tenth Column shews the direction of the Winds, as also their force, the degrees of which are marked thus.

0 A Calm.

1 Moves leaves of Trees.

4 An Hurricane.

2 and 3 the intermediate Forces.

The eleventh Column contains the state of the Weather, for Fair, Clear, Cloudy, Fog, Frost and Snow.

· Light Showers, ·· Greater Showers, ∴ Heavy Rain,
∴∴ Very Heavy Rain.

* For this Abstract of the Weather, I am indebted to my friend Doctor Orpen of Frederick Street.

ABSTRACT OF DIARY.

1816.	BAROMETER.			THERMOMETER.			WEATHER.		WINDS.	OBSERVATIONS.
	Greatest Height.	Least Height.	Medium Height.	Greatest Height.	Least Height.	Medium Height.	No. of days fair.	No. of days wet.		
January,	30. 21	28. 60	29. 40	50	31	40	9	22	S. S.W. W	<p>Barometer rose in November within less than $\frac{1}{2}$ an Inch of the highest range, and fell in January within the same space of the lowest range.</p>
February,	30. 24	29. 07	29. 65	55	27	41	15	14	S & S.W. 3.	
March,	30. 14	28. 66	29. 40	54	33	43	14	17	S & S.E. 2. 3	
April,	30. 00	29. 10	29 55	64	36	50	7	23	S & S.W	
May,	29. 99	29. 20	29. 59	71	41	56	14	17	S. S.W. 4	
June,	30. 00	29. 25	29. 62	73	45	59.	15	15	W. S.W. N. 3	
July,	29. 79	28. 87	29. 33	75	51	63	10	21	S & W. 2	
August,	30. 08	29. 27	29. 67	74	51	62	13	18	SW. W. S. 2	
September,	30. 00	28. 89	29. 46	72	42	57	10	20	S & W. 3. 4	
October,	29. 96	29. 12	29. 54	63	40	52	9	22	S & S.E	
November,	30. 54	28. 59	29. 55	54	30	42	14	16	S. E. N.W. 3	
December,	30. 48	28. 75	29. 61	50	30	40	9	22	SW. S. 4	
	30. 52	28. 59	29. 55	75	30	52	139	227	S. S.W. W	Thunder occurred in May, June, July and September.

Many excellent works, on febrile diseases, have appeared even since the foregoing part of this report was written, which contains luminous reviews of the various theories formed by ancient and modern writers to explain the nature of fever, and also, in general, accurate descriptions of that disease ; it will not be, therefore, necessary to enter on these particulars, at present, farther than a brief summary of the opinions which influenced the mode of practice to be detailed, and of such parts of the history of the disease as seem not to have been sufficiently considered of late, in determining its curative treatment.*

The following appears to me to be a natural division of continued fevers, being simple and applicable to practical utility.†—1st. Idiopathic fevers, comprehending those of spontaneous and contagious origin,—2d. Inflammatory fevers, and lastly, those in which these two kinds co-exist or mingle together ; a division, though sanctioned by the first nosological authorities, by no means unobjectionable, but adopted here for the reasons already assigned, being a more comprehensible part of the labyrinth, in which a medical observer

* See observations on the Epidemic Fever of Dublin, &c. &c. by Edward Percival, M.D. &c. &c. Transactions of the Association, &c. vol. 1st.

† Practical Illustration of Typhus Fever, by John Armstrong, M. D.

is involved by the theories of every age, to whom we may generally apply what Hippocrates said of the lecturers of his day, "*unusquisque suæ orationi testimonia et conjecturas addit—vincit hic, modo ille, modo iste, cui potissimum lingua volubilis adpopulum contigerit,*" and from such perplexity the medical prescriber can only pass securely by constant attention to the phenomena of nature.

The cases admitted into this hospital, belong in general to either of the first or third parts of this division, their relative proportions varying much at different seasons of the year, and in different epidemics; cases belonging to the 2d part also, occasionally get admission (though not strictly those for whom the institution was intended) it being sometimes advisable to remove persons labouring under inflammatory and even other diseases, from situations where they are exposed to all the circumstances favourable to the generation of fever and of contagion.

The characteristics of the first class of fevers, very generally are sudden prostration of strength, failure of mental and bodily power, suspension or disorder of the secretions, irregular, vascular, and pulmonary action, producing both inequality in the distribution of blood and of temperature in different parts of the system, and an uniform tendency

to perform a certain succession of salutary or morbid changes in definite periods. The distinguishing features and local origin of the second class, or inflammatory fevers, are well marked and generally known, but when their symptoms mingle in epidemics with those of typhoid or idiopathic fevers, the importance commensurates with the difficulty of ascertaining their relative degrees, so as safely to decide on the means to be employed.

The opinions on which this division rests, that typhus and synochus are not essentially inflammatory, but that in their simple forms are diseases of debility through their whole course, and that the excitement so observable in their early stages is constitutional reaction, accord with my experience.

Morbid anatomy, therefore, does not appear to me to warrant the conclusions which those who hold the opinion of typhus fever being an essentially inflammatory disease, have deduced from it; I have in some instances observed the same partial turgescence of vessels which they report, and likewise signs of inflammatory action in various parts of the bodies of those who died of fever; the former, however, I believe is by no

means a mark of previous inflammation, and I could generally trace the commencement of the inflammatory action, which produced the latter appearance, to local disease, which preceded or supervened on fever, sometimes at late stages; but in several cases where I had witnessed the highest degrees of febrile excitement before death, no such signs of turgescence or of inflammation were observable on dissection.*

The dissections of those who died of fever, reported by Doctor Beddoes, afforded instances of cases of highest excitement during the disease, and yet no marks of inflammation were discoverable on minute examination after death. On a subject of so much importance, I am happy to be able to add the highly respectable testimony afforded by the following letter, which was written more particularly with respect to the epidemic prevailing in Ireland nearly these two years past: besides the unquestionable qualifications of so accomplished an anatomist, and his numerous opportunities of examining the bodies brought to his theatre for dissection, which renders his testimony invaluable, it has the peculiar advantage of being deduced from observations, which were

* See the paper on apoplexia cephalica, in the beginning of this volume of the transactions.

not influenced by any preconceived theory or selection of cases favourable to particular opinions.

My dear Sir,

Having seldom examined such bodies as are brought to my anatomical theatre with a view to determine the organs, which seem to be principally affected in fever, I feel that my authority may not be sufficiently particular to afford you the satisfaction you look for, on a point of so much interest as that which engages your pen. In the midst of all the discussions relative to topical congestion, it was impossible, however, not to remark the singular want of accordance between the prevalent opinions and the local appearances. The brain, so constantly supposed to be the seat of inflammation, rarely exhibited the characters indicative of such a state—in some instances this organ was much paler than usual; in a very few, amongst a great number of dissections, was there any evidence of sanguineous or serous effusion; nor was the latter to any considerable extent.—The veins on the surface of the brain often appeared in a state of unusual plenitude; I do not think, however, this circumstance affords any argument in favour of preceding inflammation, nor can we be certain to what degree this state of fullness existed before death.—I should not omit to mention, that the vessels between the cranium

and dura mater, sometimes contained an unusual quantity of blood; the contents of the thorax were generally exempt from any character of recent disease, and rarely exhibited such marks as are esteemed to denote preceding inflammation; there was very seldom any evidence that the peritonæum or abdominal viscera had been the seat of local inflammatory action.—In short, in a great majority of cases, so little did any particular organ seem to suffer, that I have wondered what could have been the cause of death.

I am, my dear Sir,

Harcourt Street, }
Sept. 11, 1818. }

J. KIRBY,

P. S. I may recal to your memory an interesting dissection of a boy at which you were present; he died of fever, and although it was believed that the brain was the seat of inflammation, the appearances were such as to convince us, that a very opposite condition prevailed.

To Dr. William Stoker,
&c. &c. &c.

All the causes of typhus, whether predisposing or exciting, seem to be debilitating; contagion probably is so in a high degree, so far as its first effects have been ascertained, and the marks of debility developed in the course of typhoid fevers, are unquestionable.

When these causes are not excessive, or when constitutional energy is not deficient, reaction is produced in the system equal to prevent or remove their effects; hence the large proportion of spontaneous recoveries, a proportion which it would be highly important to the medical inquirer to ascertain as a first step in appreciating the safety or utility of the remedies employed. *

It is to the vigour of this reaction we may attribute the extraordinary power, which persons labouring under fever are known to possess of effectually resisting exposure to agents, or privations, which in ordinary states of health, would be highly pernicious or destructive; amongst which must be arranged either of those opposite classes of remedies for fever, which are employed and advocated by different authors, all of whom appeal to the recoveries of those submitted to their treatment, as tests of their success.

The injudicious or untimely employment of stimulants, or negligence in correcting those partial infarctions, or congestions which arise from impeded functions in the early stages of fever, may change this reaction from a sanative process to a morbid excess, especially in the young ple-

* See Browne on the power of Medicine in controlling Fever.—See Young's Medical Literature.

thoric or those of sanguine temperament, at certain seasons of the year, may endanger lesions in the vital organs, and hence inflammation, or indirectly may lead by exhaustion to increase the debility incident to the fever itself.

Crises may be defined constitutional efforts, or, as is well expressed (*omnis motus febrilis quia tendit ad superandum morbosum obicem criticus censendus est vel tendens ad crises*); those have been remarked by most medical writers, who have had sufficient opportunities for observation, to have a tendency to happen on certain days from the commencement of the fever, which very generally agree with those first noted by Hippocrates, and called by him "critical days," and in a table which exhibits the days of attack and decline in 1773 cases, which were carefully noted in this hospital, the tendency to such critical periods is very remarkable.*

† Attempts to give a rationale for these phenomena, have unfortunately not only failed hitherto, but their failure, like that of many other theories, has thrown obscurity or discredit on facts, which would otherwise be extremely applicable in practice. Galen, who was the copy-

* See Treatise on Fever, Lond. anno 1814.

† See Ouvres complètes de Bordeu, Tom. 1, page 209,

ist and commentator of Hippocrates, also recognized the periods of crises, as observed by that sage, and espoused the hypothesis that these were influenced by the revolutions of the heavenly bodies. Hypotheses succeeded each other with the changes in the favourite studies of the learned and ingenious; hence the astrological, mathematical and anatomical theories rose and declined, each system, however, still retaining a few adherents.

In compliance with the request of the ingenious and learned author of the collection of treatises on sollunar influence in fevers,* expressed in that work, and to prove my respect for the zeal with which he has prosecuted that subject in various parts of the world, during a long and active life, I have noted not only the days, but the particular hours of attack and decline, in as many cases as I could ascertain them within a certain period; and the following table exhibits 94 such cases received into this hospital during two months, from the 6th of July to the 6th of September 1817 inclusive, during which period 276 patients, in fever, passed through the wards under my care: the other columns in the table shew the daily state of the moon, and of the tides during the same time.

* See collections of treatises on the effects of sollunar influence in fevers, by Francis Balfour, M. D. 4th edit. London, 1816.

Very little coincidence, indeed, is to be remarked from a view of these tables ; but the observations are not sufficiently numerous to warrant any decided conclusion from them ; besides, it should be noticed, that at the time the cases were taken from which these tables were filled up, the epidemic fever was the effect of prevailing famine, a cause which might have operated to prevent the influence of other circumstances from being observable. But I must leave that to be decided on by them who shall hereafter have opportunity and more vacant time to prosecute this curious subject farther, to whom at least, these tables may be some assistance, being composed from notes, which were results of careful and assiduous enquiry during the period stated.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Michael Doyle, Age 14.	July 6	June 28, 5 morn.	14	12h. 0m. midn.	morn. 10h. 22m. aftn. 10h. 48m.	July 9, hour uncert.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	Rec.
Patrick Dunn,	July 6	June 29, --- aftn.	15	12h. 7m. morn.	morn. 11h. 14m. aftn. 11h. 38m.	July 10, 12 midn.	26	8h. 44m. morn.	morn. 7h. 48m. aftn. 8h. 16m.	Rec.
Thomas Mc. Cornick,	July 6	June 2, 12 midn.	17	2h. 25m. morn.	morn. 1h. 28m. aftn. 1h. 3m.	July 7, 1 morn.	23	12h. 0m. midn.	morn. 4h. 32m. aftn. 4h. 58m.	Rec.
Stephen Dry, Age 18.	July 6	June 28, 4 morn.	14	12h. 0m. midn.	morn. 10h. 22m. aftn. 10h. 48m.					Rec.
James Glane,	July 11	July 3,	19	3h. 49m. morn.	morn. 1h. 50m. aftn. 2h. 10m.	July 10, night.	26	8h. 44m. morn.	morn. 7h. 48m. aftn. 8h. 16m.	Rec.
Peter Geraghty,	July 10	July 7, 9 morn.	23	6h. 35m. morn.	morn. 4h. 32m. aftn. 4h. 58m.	July 11, 1 morn.	27	0h. 59m. morn.	morn. 8h. 42m. aftn. 9h. 8m.	Rec.
John Mahon, Age 18.	July 10	July 8, 2to3morn	24	7h. 17m. morn.	morn. 5h. 28m. aftn. 6h. 2m.	July 9, 9 morn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	Rec.
Patrick Mc. Namara, Age 15.	July 11	July 7, 3 aftn.	23	6h. 35m. morn.	morn. 4h. 32m. aftn. 4h. 58m.	July 13, 12 midn.	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 18m.	Rec.
John Clare, Age 19.	July 12	July 7, 10 morn.	23	6h. 35m. morn.	morn. 4h. 32m. aftn. 4h. 58m.	July 11, 2 afr.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 8m.	Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Michael Holywood, Age 8.	July 12					July 14,	New ☾	0h. 13m. aftn.	morn. 10h. 59m. aftn. 11h. 20m.	Rec. Dublin.
Michael Byrne, Age 19.	July 12	July 5, 6 aftn.	21	5h. 15m. morn.	morn. 3h. 6m. aftn. 3h. 56m.	July 14, 12 midn.	New ☾	0h. 13m. aftn.	morn. 10h. 59m. aftn. 11h. 20m.	Rec.
James Kenna, Age 25.	July 13	July 4, 6 morn.	20	4h. 33m. morn.	morn. 2h. 30m. aftn. 2h. 48m.	July 13, 6 aftn.	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 38m.	Rec.
James Mahony, Age 55.	July 13	June 20, 12 noon.	6	4h. 55m. aftn.	morn. 2h. 22m. aftn. 2h. 42m.	July 13,	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 38m.	Rec.
Thomas Finnican, Age 56.	July 13	July 9 1 morn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	July 12, 1 aftn.	28	10h. 24m. morn.	morn. 9h. 33m. aftn. 9h. 58m.	Rec.
Thomas Crawford, Age 10.	July	July 8, —aftn.	24	7h. 17m. morn.	morn. 5h. 28m. aftn. 6h. 2m.	July				Rec.
Patrick Brennan, Age 5.	July 17	July 12, 1 aftn.	28	10h. 24m. morn.	morn. 9h. 33m. aftn. 9h. 58m.	July 17, 11 aftn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	Rec.
John Keagh, Age 3.	July 17					July 17,	4	3h. 41m. aftn.	morn. 1h. 23m. aftn. 1h. 43m.	Rec.
Denis Smith, Age 29.	July 17	July 20, 9 morn.	26	8h. 45m. morn.	morn. 7h. 48m. aftn. 8h. 16m.	July 17, 3 aftn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Pat. Doyle, Age 18.		July 11, 1 aftn.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 8m.	July 17, 4 aftn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	Rel.
John Campbell, Age 27.	July 17	July 13, 5 morn.	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 38m.	July 18. aftn.	4	3h. 41m. aftn.	morn. 1h. 23m. aftn. 1h. 43m.	Rec.
Henry Barnet, Age 19.	July 18	July 12, 5 aftn.	28	10h. 24m. morn.	morn. 9h. 33m. aftn. 9h. 58m.	July 18, aftn.	4	3h. 41m. aftn.	morn. 1h. 23m. aftn. 1h. 43m.	Rec.
John Smith, Age 8.	July 19	July 14, 3 aftn.	29	0h. 13m aftn.	morn. 10h. 59m. aftn. 11h. 20m	July 19, 12 midn.	5	4h. 29m. aftn.	morn. 2h. 3m. aftn. 2h. 23m.	Rec.
— Elwood, Age 30.	July 20	July 17, 8 morn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	July 20, 12 noon.	6	5h. 17m. aftn.	morn. 2h. 45m. aftn. 3h. 8m.	Rec.
Francis Brady, Age 20.	July 26	July 17, 2 aftn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	July 20, 3 aftn.	6	5h. 17m. aftn.	morn. 2h. 45m. aftn. 3h. 8m.	Rel.
John Bell. Age 34.	July 20	July 12, 5 aftn.	28	10h. 24m. morn.	morn. 9h. 33m. aftn. 9h. 58m.	July 20, 12 midn.	6	5h. 17m. aftn.	morn. 2h. 45m. aftn. 3h. 8m.	Rec.
Francis Nowlan, Age 36.	July 6	June 8, 2 aftn.	23	7h. 19m. morn.	morn. 5h. 36m. aftn. 6h. 10m.					Rec.
Mary Dunn. Age 18.	July 6	June 27, 11 aftn.	13	11h. 4m aftn.	morn. 9h. 28m. aftn. 9h. 55m.					Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Anne Kavenagh, Age 18.	July	June 24, 8 morn.	10	8h. 11m. aftn.	morn. 6h. 10m. aftn. 6h. 45m.					Rec.
Mary Cunningham,	July 7	June 29, 3 aftn.	15	0h. 7m. morn.	morn. 11h. 14m. aftn. 11h. 31m.	July 8, 3 morn.	24	7h. 17m. morn.	morn. 5h. 28m. aftn. 6h. 2m.	Rec.
Ellen Farrell,	July 7	June 30, 8 morn.	16	1h. 8m. morn.	morn. 0h. 0m. aftn. 0h. 2m.	July 23, 4 aftn.	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 38m.	Died
Anne Rowe, Age 18.	July 2	July 2, 9 morn.	18	3h. 0m. morn.	morn. 1h. 8m. aftn. 1h. 30m.	July 9, midn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	Rec
Catherine Scanlan, Age 13.	July 10	July 9, 6 aftn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	July 16, 5 aftn.	22	2h. 2m. aftn.	morn. 0h. 2m. aftn. 0h. 22m.	Rel.
Mary Monahan, Age 16.	July 11	July 9, 1 aftn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	July 12, midn.	28	10h. 24m. morn.	morn. 9h. 33m. aftn. 9h. 58m.	Rec.
Mary Monahan, Age 46.	July 11	July 16, 2 morn.	2	2h. 2m. aftn.	morn. 0h. 9m. aftn. 0h. 22m.	July 18, 2 morn.	4	3h. 41m. aftn.	morn. 1h. 28m. aftn. 1h. 43m.	Rel.
Anne Monahan, Age 14.	July 11	July 6, 4 aftn.	22	5h. 55m. morn.	morn. 3h. 48m. aftn. 4h. 10m.	July 13, 5 noon.	29	11h. 18m. morn.	morn. 10h. 18m. aftn. 10h. 38m.	Rec.
Catherine Ward, Age 13.	July	July 5, 5 aftn.	21	5h. 55m. morn.	morn. 3h. 6m. aftn. 3h. 26m.	July 12, 5 noon.	28	10h. 28m. morn.	morn. 9h. 33m. aftn. 19h. 58m.	Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Eliz. Armstrong, Age 18.	July 13	July 7, noon.	23	6h. 35m. morn.	morn. 4h. 32m. aftn. 4h. 58m.	July 20, 2 morn.	6	5h. 17m. morn.	morn. 2h. 45m. aftn. 3h. 8m.	Rec.
Jane Crawley, Age 11.		July 11, morn.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 33m.	July 15, 4 morn.	1	1h. 8m. morn.	morn. 4h. 41m. aftn. 0h. 0m.	Rec.
Pasley, Age 15.	July 17	July 11, 3 aftn.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 33m.	July 18, 3 morn.	4	3h. 41m. aftn.	morn. 1h. 23m. aftn. 1h. 43m.	Rec.
Sally Smith; Age 10.	July 19	July 14, 8 morn.	2	9h. 8m. aftn.	morn. 10h. 59m. aftn. 11h. 20m.	July 19, 5 morn.	5	4h. 29m. aftn.	morn. 2h. 3m. aftn. 2h. 23m.	Rec.
Honora Green, Age 13.	July 28	July 15, 8 morn.	1	1h. 8m. aftn.	morn. 11h. 41m. aftn. 00h. 00m.	July 23, 4 aftn.	9	7h. 53m. aftn.	morn. 5h. 38m. aftn. 6h. 17m.	Rec.
Catharine Daly, Age 22.	July 19	July 11, 9 morn.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 8m.					Rec.
—Mc. Creery, Age 23.	Aug 13	Aug. 5, 9 morn.	23	5h. 54m. morn.	morn. 3h. 41m. aftn. 4h. 4m.	Aug. 9, aftn.	26	9h. 7m. morn.	morn. 8h. 8m. aftn. 8h. 38m.	Rec.
M. A. Cox, Age 14.	Aug. 14	Aug. 8, 5 aftn.	25	8h. 14m. morn.	morn. 6h. 56m. aftn. 7h. 34m.	Aug. 13, noon.	2	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.
Mary Hughes. Age 17.	Aug. 14	Aug. 11, 10 morn.	28	10h. 58m. morn.	morn. 9h. 53m. aftn. 10h. 20m.	Aug. 13, 10 morn.	2	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.

1817.	Admitted.	Attacked.	Moons Age.	Moons Southed.	High Tide Dublin.	Change.	Moons Age.	Moons Southed.	High Tide Dublin.	Rec.
Mary Curly, Age 8.	Aug. 14	Aug. 11, 12 noon.	28	10h. 58m. morn.	morn. 9h. 58m. aftn. 10h. 20m.	Aug. 13, 10 morn.	New ☾	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.
Jane Powell,	Aug. 14	Aug. 14, 8 aftn.	1	1h. 36m. aftn.	morn. 0h. 0m. aftn. 0h. 4m.	Aug. 19, morn.	New ☾	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.
Mary Floor,	Aug. 16	Aug. 9, morn.	26	9h. 7m. morn.	morn. 8h. 8m. aftn. 8h. 38m.	Aug. 17, 5 morn.	4	4h. 3m. aftn.	morn. 1h. 43m. aftn. 2h. 2m.	Rec.
Isabel Frazer, Age 16.	Aug. 16	Aug. 14, 10 morn.	1	1h. 36m. aftn.	morn. 0h. 0m. aftn. 0h. 4m.	Aug. 16, 10 morn.	3	3h. 15m. aftn.	morn. 1h. 4m. aftn. 1h. 23m.	Rec.
B. Burke, Age 13.	July 21	July 17, aftn.	3	2h. 52m. aftn.	morn. 0h. 42m. aftn. 1h. 2m.	July 20, 1 aftn.	6	5h. 17m. aftn.	morn. 2h. 42m. aftn. 3h. 8m.	Rec.
Ann Stringer, Age 34.	July 23	July 9, 8 morn.	25	7h. 59m. morn.	morn. 6h. 40m. aftn. 7h. 16m.	July 24, morn.	10	3h. 51m. aftn.	morn. 6h. 58m. aftn. 7h. 36m.	Rec.
James Mc Nally, Age 10.	July 24	July 16, 8 aftn.	2	2h. 2m. aftn.	morn. 0h. 2m. aftn. 0h. 22m.	July 16, 1 night.	2	2h. 2m. aftn.	morn. 0h. 2m. aftn. 0h. 22m.	Rec.
Eliza Murphy, Age 23.	July 29	July 26, 5 morn.	12	10h. 53m. aftn.	morn. 9h. 17m. aftn. 9h. 47m.	July 28, 9 morn.	14	aftn.	morn. 11h. 4m. aftn. 11h. 26m.	Rec.
Catherine Fiernan, Age 24.	Aug. 9	Aug. 5, 6 aftn.	22	5h. 54m. morn.	morn. 3h. 41m. aftn. 4h. 4m.	July 11, 7 morn.	27	9h. 33m. morn.	morn. 8h. 42m. aftn. 9h. 8m.	Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Mary Kenny, Age 22.	Aug. 10	Aug. 5, 6 aftn.	22	5h. 54m. morn.	morn. 3h. 41m. aftn. 4h. 4m.	Aug. 10, morn.	26	8h. 44m. morn.	morn. 7h. 48m. aftn. 8h. 16m.	Rec.
Catharine Fay, Age 20.	Aug. 13	Aug. 9, 8 morn.	26	9h. 7m. morn.	morn. 8h. 8m. aftn. 8h. 38m.	Aug. 14, 9 morn.	1	1h. 36m. aftn.	morn. — aftn. 0h. 4m.	Rec.
— Crosby, Age 11.	Aug. 16	Aug. 14, 9 morn.	1	1h. 36m. aftn.	morn. — aftn. 0h. 4m.	August 17, 10 morn.			morn. 1h. 43m. aftn. 2h. 2m.	Rec.
Eliz. Richardson. Age.	Aug. 18	Aug. 18, 8 morn.	5	4h. 55m. aftn.	morn. 2h. 21m. aftn. 2h. 40m.	August 18, 8 even.	5	4h. 55m. aftn.	morn. 2h. 21m. aftn. 2h. 40m.	Rec.
Anne Webster, Age.	Aug. 18	Aug. 9, 8 morn.	26	9h. 7m. morn.	morn. 8h. 8m. aftn. 8h. 38m.	August 19, 4 even.	6	5h. 48m. aftn.	morn. 3h. 6m. aftn. 3h. 34m.	Rec.
Jane Slack, Age.	Aug. 18	Aug. 17, 6 even.	4	4h. 3m. aftn.	morn. 1h. 43m. aftn. 2h. 2m.	August 18, 8 even.	5	4h. 55m. aftn.	morn. 2h. 21m. aftn. 2h. 40m.	Rec.
Mary Anne Owen, Age 21.	Aug. 20	Aug. 13, 9 morn.	3	0h. 46m. aftern.	morn. 11h. 25m. aftn. 11h. 44m.	August 20, 6 even.	7	6h. 44m. aftn.	morn. 4h. 4m. aftn. 4h. 38m.	Rec.
Betty Beahan, Age 43.	Aug. 22	Aug. 16, 12 noon.	3	3h. 15m. aftn.	morn. 1h. 4m. aftn. 1h. 23m.	August 21, 12 morn.	8	7h. 44m. aftn.	morn. 5h. 17m. aftn. 6h. 2m.	Rec.
Abigail Casey, Age 18.	Aug. 27	Aug. 23, 11 morn.	11	9h. 42m. aftn.	morn. 8h. 5m. aftn. 8h. 37m.	August 28, 3 even.	15	1h. 3m. morn.	morn. 0h. 0m. aftn. 0h. 2m.	R.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Margaret Hogan, Age 20.	Aug. 29	Aug. 24, 11 morn.	11	10h 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Aug. 30, morn.	17	2h. 27m. morn.	morn. 0h. 47m. aftn. 1h. 2m.	Rec.
Mary Anne Brennan, Age 7.	Aug. 30	Aug. 26 8 morn.	13	0h 0m aftn.	morn. 10h. 46m. aftn. 11h. 5m.	Aug. 30 midn.	17	2h. 27m. morn.	morn. 0h. 47m. aftn. 1h. 2m.	Rec.
Anne Wild, Age 20.	Aug. 30	Aug. 24, midn.	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Aug. 30, midn.	17	2h. 27m. morn.	morn. 0h. 47m. aftn. 1h. 2m.	Rec.
M Larkington, Age 29.	Sept 1	Aug. 27 11 morn.	14	0h. 18m. morn.	morn. 11h. 24m. aftn. 11h. 43m.	Sept. 1, 12 midn.	19	3h. 48m. morn.	morn. 1h. 50m. aftn. 2h. 6m.	Rec.
Catherine Gurry, Age 22.	Sept 1	Aug 24, 7 morn.	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Sept. 1, 12 midn.	19	3h. 48m. morn.	morn. 1h. 50m. aftn. 2h. 6m.	Rec.
James Maxwell, Age 26.	July 31	July 24, 6 aftn.	10	8h. 51m. aftn.	morn. 6h. 58m. aftn. 7h. 36m.	Aug. 1, 3 morn.	18	3h. 9m. morn.	morn. 1h. 18m. aftn. 1h. 36m.	Rec.
James Curly,	Aug. 5	July 28,	14	0h. 0m. aftn.	morn. 11h. 4m. aftn. 11h. 26m.	Aug. 6, 6 aftn.	23	6h. 38m. morn.	morn. 4h. 28m. aftn. 5h. 2m.	Rec.
William Curtis, Age 21.	Aug. 7	Aug. 3, 4 aftn.	20	4h. 31m. morn.	morn. 2h. 22m. aftn. 2h. 39m.	Aug. 8, 6 morn.	25	8h. 14m. morn.	morn. 6h. 56m. aftn. 7h. 34m.	Rec.
Edward Mulligan, Age 67.	Aug. 8	July 31, 10 aftn.	17	2h. 25m. morn.	morn. 0h. 42m. aftn. 1h. 0m.	Aug. 6, 0 night.	23	6h. 38m. morn.	morn. 4h. 28m. aftn. 5h. 2m.	Rec.

1817.	Admitted	Attacked	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
Richard Hynes, Age 26.	Aug. 12	Aug. 7, 1 even.	24	7h. 24m. morn.	morn. 5h. 38m. aftn. 6h. 16m.	Aug. 13, 10 morn.	New	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.
Robert Biggs, Age 19.	Aug. 14	Aug. 6, 2 even.	23	6h. 38m. morn.	morn. 4h. 28m. aftn. 5h. 2m.	Aug. 13, midn.	New	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.
James Mullen, Age 23.	Aug. 17	Aug. 6, morn.	23	6h. 38m. morn.	morn. 4h. 28m. aftn. 5h. 2m.	Aug. 17, night.	4	4h. 3m. aftn.	morn. 1h. 43m. aftn. 2h. 2m.	Rec.
Pat. Carne, Age 13.	Aug. 17	Aug. 13, 10 morn.	25	0h. 46m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Aug. 18, 12 midn.	5	4h. 55m. aftn.	morn. 2h. 2m. aftn. 2h. 40m.	Rec.
James Thompson,	Aug. 18	Aug. 9, 11 even.	26	9h. 7m. morn.	morn. 8h. 8m. aftn. 8h. 38m.	Aug. 26, noon.	13	morn.	morn. 10h. 46m. aftn. 11h. 5m.	Rec.
James Nowlan,	Aug. 18	Aug. 3, 9 even.	20	4h. 31m. morn.	morn. 2h. 22m. aftn. 2h. 39m.	Aug. 19, 8 morn.	6	5h. 48m. aftn.	morn. 3h. 6m. aftn. 3h. 34m.	Rec.
John McCarthy,	Aug. 23	Aug. 19, 10 morn.	6	5h. 48m. aftn.	morn. 3h. 6m. aftn. 3h. 34m.	Aug. 26, 10 night.	13	morn.	morn. 10h. 46m. aftn. 11h. 5m.	Rec.
Johnn Corr, Age 14.	Aug. 23	Aug. 17, 9 even	4	4h. 3m. aftn.	morn. 1h. 43m. aftn. 2h. 2m.	Aug. 28, 2 even.	15	1h. 3m. aftn.	morn. 0h. 2m. aftn. 0h. 2m.	Rec.
John Grady,	Aug. 23	Aug. Aug. 16,	3	3h. 15m. aftn.	morn. 1h. 4m. aftn. 1h. 23m.	Aug. 27, 4 morn.	14	6h. 18m. morn.	morn. 11h. 1m. aftn. 11h. 43m.	Rec.

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Rec.	Fate.
Patrick Mc. Caul,	Aug. 21	Aug. 19, evening,	6	5h. 48m. aftn.	morn. 3h. 6m. aftn. 3h. 34m.	Aug. 20, 10 night.	15	1h. 3m. morn.	morn. 0h. 00m. aftn. 0h. 2m.	Rec.	High Tide Dublin.
James St. John, Age 16.	Aug. 24	Aug. 14, evening,	1	1h. 36m. aftn.	morn. — aftn. 0h. 4m.	Aug. 26, 1 evening.	13	0h. 0m. morn.	morn. 10h. 46m. aftn. 11h. 5m.	Rec.	
William Mc. Gusta, Age 28.	Aug. 24				morn. aftn.	Aug. 26, midnight.	13	0h. 0m. morn.	morn. 10h. 46m. aftn. 11h. 5m.	Rec.	
Richard Byrne, Age 26.	Aug. 27	Aug. 21, evening,	8	7h. 44m. aftn.	morn. 5h. 17m. aftn. 6h. 2m.	Aug. 27, 4 morn.	14	6h. 18m. morn.	morn. 11h. 24m. aftn. 11h. 43m.	Rec.	
Daniel Byrne, Age 14.	Aug. 30	Aug. 24, evening,	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Aug. 29, 12 midnight.	16	1h. 46m. morn.	morn. 0h. 17m. aftn. 0h. 32m.	Rec.	
Bryan Brady, Age 26.	Aug. 30	Aug. 21, morn.	8	7h. 44m. aftn.	morn. 5h. 17m. aftn. 6h. 2m.	Aug. 29, night.	16	1h. 46m. morn.	morn. 0h.	Rec.	
Thomas Paisly, Age 13.	Aug. 31	Aug. 25, 12 noon.	12	11h. 31m. aftn.	morn. 10h. 4m. aftn. 10h. 28m.	Aug. 31, 1 aftn.	18	3h. 8m. morn.	morn. 1h. 18m. aftn. 1h. 34m.	Rec.	
William Cross, Age 22.	Aug. 31	Aug. 24, aftn.	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Aug. 31, 3 aftn.	18	3h. 8m. aftn.	morn. 11h. 25m. aftn. 11h. 46m.	Rec.	

1817.	Admitted.	Attacked.	Moon's Age.	Moon Southed.	High Tide Dublin.	Change.	Moon's Age.	Moon Southed.	High Tide Dublin.	Fate.
William M'Grath,	Sept. 3	Aug. 29, 10½ morn.	16	1h. 46m. morn.	morn. 0h. 17m. aftn. 0h. 3m.	Sept. 2, 12 aftn.	20	4h. 32m. morn.	morn. 2h. 22m. aftn. 2h. 38m.	Rec.
Peter Murphy, Age 28.	Sept. 3	Aug. 24, 6 morn.	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Sept. 4, morn.	22	6h. 6m. morn.	morn. 3h. 48m. aftn. 4h. 18m.	Rec.
James Kennan,	Sept. 3	Aug. 24, 6 morn.	11	10h. 39m. aftn.	morn. 9h. 6m. aftn. 9h. 35m.	Sept. 4, morn.	22	5h. 6m. morn.	morn. 3h. 48m. aftn. 4h. 18m.	Rec.
Mat. Doran, Age 26.	Sept. 3	Sept. 28 9 aftn.	17	1h. 55m. morn.	morn. 0h. 18m. aftn. 0h. 32m.	Sept. 4, 3 morn.	22	6h. 6m. morn.	morn. 3h. 48m. aftn. 4h. 18m.	Rec.

I regret I can only add to the facts already promulgated from this Institution, that my subsequent experience has farther confirmed my conviction, that periodical movements occur almost as constantly in the regular continued fevers of this country, as in the exanthemata ; the eruptions accompanying the latter, by their appearance and decline, rendering the periods in them more observable.* The great increase in the numbers admitted into the hospital, however, and some other causes, have made it impracticable to note the decline of fever with the same accuracy as during the first years, and requisite to furnish satisfactory results.

Some account of the epidemic which has prevailed so generally through Ireland, is a necessary introduction to the method of cure to be detailed, as the cases intended for illustration have passed through the hospital at a recent period, when the character of the epidemic was fully developed, and a greater number of persons affected with it were received into the hospitals of Dublin, than had been

* I can also state, that my esteemed colleague, Dr. Barker, professor of chemistry, T. C. D. and myself, entirely accord, as to critical days in fever ; he noted the days of attack and decline, in a great number of cases which came under his care in the fever Institution of Waterford, and from the columns in the registry of that institution, for the entrance of such days, inferences are afforded very similar to those deduced from the columns of our Registry.

until that time known ; and these cases may also be considered to present fair examples of the fever of this country, and the remedies I have employed for it.

If proofs were wanting, that deficiency as well as vitiation of nutriment is a chief source of epidemics, these would be abundantly supplied from the history of the present fever. The dearth produced by the failure or injury of the crops of 1816 was quickly felt, and was soon accompanied by the usual attendants of famine amongst the lower orders of this country, whose poverty was before sufficiently deplorable ; accordingly, fever first appeared in those parts of the country where famine most prevailed, and every where succeeded it in the same degree. In many instances, of which Dublin presented a prominent example, the supplies of wholesome nutriment to the poor, by the humanity and munificence of the affluent, were found not only to prevent a greater prevalence of fever than usual for a considerable time after the inhabitants of other parts had suffered severely from it, but also to check its progress sensibly after it had appeared.

It is, I think, difficult to say, at what time it began to be propagated by contagion, or to what extent, as the same scarcity of provision in which the fever originated, was found ultimately amongst

all the poorer classes in Ireland, and was aided by the strong predisposition given by depressing passions ; and probably, according to the language of Sydenham, “ a certain constitution of the atmosphere,” a cause of pestilence known to the ancients, and described in the natural but affecting words of Virgil.

“ Subito cum tabida membris
Corrupto cœli tractu miserandaq: venit
Arboribusque satisq. lues et lethifer annus
Linquebant dulces animas aut ægra trahebant
Corpora.”

Where the chief cause, namely, deficiency of wholesome nutriment, did not exist, the epidemic was not in general found to spread ; thus there were many families of condition, in each of which I have attended an individual in the worst forms of this fever, but cannot call to my recollection any instance in which it was communicated to other members of these families. There may be however, many well authenticated instances in which it happened otherwise, and I mention the results of my own experience on this subject, not with a view to oppose the opinion that the disease is often propagated by contagion, but as tending to shew without other auxiliaries, that contagion was not very active till the warmth of summer, which has been always found to exert the same influence on the fever of this country, since very observable in other parts as well as in the metropolis.

The comparative freedom from fever of the sis-

ter kingdom, with which there is such frequent communication, tends I think, farther to prove that, where the predisposing causes which exist so generally here are not present—the contagion of this epidemic is not very active. In a late publication by the very respectable consulting physician to the fever institution in London, it appears that but 760 persons affected with the epidemic have been admitted into that establishment, during the year 1817, which is scarcely more than have been admitted into the Cork-street hospital within one month, which contains only about a fourth of the beds provided for fever patients in this city; and it should be recollected, that of those received into the London institution, it appears that a considerable number was of the families of the lowest Irish labourers, who probably carried with them the leaven of the disease from their native homes.

Season seems to have the same influence on this epidemic as on the common fever in Dublin, which has been already briefly described. The symptoms too of this epidemic resemble very nearly those of the fever which has been so long known in this city, and may be classed under the heads of typhus mitior, and typhus gravior, mingling with others either constitutional or incidental; the mild forms bear a very large proportion to the more se-

* See succinct account, &c. by Thomas Bateman, M. D. 1818.

vere, and the usual course is from three to nine days, most generally terminating favourably on or before the 7th.

Using the appellations typhus gravior and mior, to denote different degrees of the same disease, I shall in my general description, sum up the symptoms of both, marking as I proceed those which portend or designate either a speedy and favourable, or a protracted and doubtful issue. The commencement of each is generally well marked by sudden loss of muscular power, lassitude, shiverings, accompanied with head-ach, dorsal and lumbar pains, with præcordial oppression ; the degree of the urgency of these symptoms will sometimes guide the prognosis with tolerable certainty, both as to the character and course of the future disease, especially if they are protracted, and accompanied by obstinate torpor of the bowels, and diminution or interruption of the due action of the secretory organs.

When, however, the heat of skin soon succeeds, producing a general blush over the surface, the skin not feeling arid or pungent to the touch, the eyes animated though anxious, respiration and pulse of due proportionate quickness, the latter not exceeding 100, when the bowels yield readily to purgative medicines, or when spontaneous vomiting or diarrhœa, then a copious and general

perspiration often succeeds, producing a complete solution of the disease ; thus the milder attacks in many instances resemble the paroxysms of intermitting fever, but without leaving the same tendency to periodical return ; it may here, however, be observed that the relapses which have occurred so very frequently with those latterly affected with the epidemic, seem to have a remarkable tendency for certain days, particularly for the third and fifth days, from the favourable change.

In the severe cases, sometimes the sense of cold continues for more than thirty-six hours ; and in some of the worst cases, and in old or broken constitutions, cold and clammy sweats will succeed without any perceptible increase of temperature of the body, either to the patient himself or to a bye-stander ; the eyes and countenance acquiring a certain sunk and dejected appearance, which indicates imminent danger : such perspiration brings no relief ; the spirits become more dejected ; sighing or moaning is frequent ; the skin becomes discoloured ; petechiæ appear ; circulation and respiration are languidly performed ; the alvine discharges are dark and fetid ; the tongue black, chopped, sometimes swollen, tremulous when protruded ; urine retained or passed involuntarily ; swallowing difficult ; then succeed hiccup ; livid extremities ; gangrene ; death.

Cases marked by every conceivable degree be-

tween those two extremes, almost constantly occur, influenced by age, constitution, habits, treatment, and probably by the degree of exciting causes, especially contagion, to which they had been exposed ; a much larger proportion, as has been mentioned, approach more nearly to the milder form : the description, however, of some of the intermediate degrees, having many symptoms peculiar to themselves, becomes necessary.

In some cases feverish heat of skin commences with the attack, more generally it succeeds in a few hours.

I cannot say in what probable proportion of the cases taken into the hospital, the temperature greatly exceeds the natural standard, as the numbers admitted are too great to allow time for minute examination with the thermometer ; but from the frequency with which I experience the sensation of acrid heat to the touch, I am persuaded that proportion is considerable. Heat and dryness of the skin are generally attended with symptoms of increased excitement, such as frequent pulse, hurried circulation, head-ach, tinnitus aurium, increase of thirst, restless nights, pains of limbs, unequal distribution of blood, flushings of the face, often accompanied with coldness in the lower extremities, vertigo, delirium.

During this period, the functions are much disturbed, marked by loss of appetite, oppression of stomach and in the chest, and connected with these symptoms, nausea, cough, sense of weight at the liver, and sometimes jaundice, succeed; the bowels are now also obstinately costive, the discharges produced from them by medicines scanty, acrid, and often an orange colour; urine also scanty and high coloured; at this period, too, excitement most resembles inflammatory action, or perhaps kindles inflammation in bowels previously obstructed or diseased; and in no form or period of fever is the examination of the pulse so important, for by it alone, I think it may be discovered, whether the constitutional derangement is then owing chiefly to the excitement of fever, or the local inflammatory affection.

The continuance of the hot stages varies from one to ten or eleven days, or sometimes more, subject, however, to diurnal exacerbations and intermissions. Its favourable terminations are mostly by perspiration, freedom of the bowels, or some vicarious discharge; sometimes by the expulsion of some irritating cause, as a lumbricus from the stomach, or of impacted fæces from the intestines, by which the excitement was kept up after the primary cause of fever was subdued. When however, such symptoms of excitement continue longer than the seventh or ninth day, those of

debility or putrescency often begin to shew themselves, the former marked by increased prostration of strength ; tremours ; feeble pulse ; dejected spirits ; the latter by dark colour of the incrustations on the tongue, and by the foetor and blackness of the fæces.

High delirium, watchfulness and intolerance of light, generally occur in the early stages of fever, when excitement is considerable ; but it is mostly at latter periods that coma, insensibility to surrounding objects or to the ordinary stimuli, supervene, and which generally precede those formidable symptoms of depraved sensorial power, such as picking at the bed cloaths ; low incoherent muttering, and unconsciousness of the natural discharges. \

Method of treatment.

“ The difficulty of ascertaining the powers of medicines.” Doctor Heberden observes, “ and of distinguishing their real effects from the changes wrought in the body by other causes, must have been felt by every physician : and no aphorism of Hippocrates, holds truer to this day, than that in which he laments the length of time necessary to establish medical truths, and the danger, unless the utmost caution be used, of our being misled even by experience.”*

* Vide Comment on the History and Cure of Diseases by Wm. Heberden, M. D. p. 71.

This observation is perhaps more applicable to the treatment of fevers than of other diseases, not merely because they so frequently terminate favourably and suddenly by unaided exertion of inherent constitutional energy, but from the danger of confounding that constitutional energy with morbid action, producing great difficulty of deciding when to interpose remedies, with a view to correct either its supposed deficiency or excess, a decision which the experienced practitioner is alone capable of making, and appears to me to be of paramount importance in the treatment of simple idiopathic fever.

Viewing the common fever of this country as generally idiopathic, and guided by the foregoing considerations, I have been rather disposed to select than multiply remedies for its cure ; nor has later experience appeared to me to warrant any considerable addition to those which I stated some time since on another occasion, and then placed in order of priority, according to their relative utility, thus :—Cleanliness, Ventilation, cool Regimen, plentiful Dilution, Purgatives, Antimonial or James's Powders, Yeast or Barm, Wine and camphorated Mixture, Emetics, cold or tepid Ablution, Blisters, partial Fomentations.

I have, since the appearance of the present epidemic, considerably curtailed the frequency of

the employment of several of these articles, especially topical bleeding, wine, and cold or tepid ablutions ; this I can more particularly say, with regard to the cases which will be referred to hereafter, as well for illustration of my practice, as to account for my not adopting remedies which have been reported of great efficacy in this epidemic, I mean venesection and mercurial salivation.

Having, when I first proposed the foregoing classification, stated my reasons for preferring it, together with some general observations on the *modus operandi* of the remedies, I shall here confine myself chiefly to some remarks on the two last mentioned, on the former of which so much difference of opinion has been expressed by eminent physicians at both remote and recent periods.

Of both these remedies, my opinion, formed on very extensive experience is, that they are not generally necessary to the cure of the common fever of this country ; under certain circumstances, however, favourable to phlogistic or biliary diathesis, recourse must be had to each ; but always keeping in mind the tendency to debility in such fevers, and it may be remarked more particularly with regard to mercurial salivation, that if generally employed in febrile states, the distress and inconvenience excited by the remedy, would continue much longer than the usual course of the disease intended to be removed.

Professor Van Rotterdam,* selects the four following indications instituted, by various authors, for the employment of blood-letting in fevers in general.

First.—To direct the increased impulse of blood from the essential part.

Second.—To relax the contraction, (crispation) and to allay the spasmodic action.

Third.—To diminish the mass of blood.

Fourth.—To reduce the inordinate reaction of the sanguiferous system.

I do not find that blood-letting fulfils these indications very uniformly in fever ; but the symptoms which denote these indications appear to me to be satisfactorily enumerated by that author ; and also the symptoms and considerations which forbid blood-letting.

When either train of symptoms exists alone, or decidedly indicates either a sthenic or an asthenic state of the system, no difficulty arises as to the employment or rejection of this remedy ; but when they co-exist and approximate in degree, as they

* Vide Treatise on Blood-letting in Fever by Professor I. V. Rotterdam, as translated from the French by J. Taylor, M. D.

frequently do in idiopathic fever, the difficulty of decision is very great.

Increased excitement, which in general is only observable in the early stages of the fevers of this country, if not urged to excess by improper treatment, is mostly salutary, and its unfavorable terminations are generally in debility. Blood-letting does not always fulfil the fourth indication in the early stages of fever, as its *modus operandi* at those periods appears, at least in small quantities, to be directly stimulant in many cases, and in these it is as objectionable as other stimuli, which exhaust the vital energy, by excessive excitement. It is, I think, probably in some of the mild cases of fever, in which the powers of reaction are deficient, that such small bleedings are most effectual, by hurrying on a crisis or struggle between the salutary efforts of the constitution and the increasing debility of the disease: copious blood-letting at this period is however, much more dangerous; for tho' it may, in some instances, produce immediate relief of the distressing symptoms of excitement, and if no mark of declining strength is observable, may cut short the disease; yet, in a much greater proportion of cases, the powers of reaction do not preponderate, and that relief is only apparent or transient, whilst the pernicious effects are easily recognizable in the subsequent stages.

I have frequently observed how insidious this

seeming relief from blood-letting is, in the commencement of our common fevers, both where I have been necessarily compelled to employ it, either for local inflammation or apoplectic threatenings which co-existed, or when I supposed that remedy was fully indicated by the symptoms of excessive excitement; the succeeding crisis being imperfect, prostration of strength coming on more rapidly, and recovery being more protracted; or death taking place more suddenly, and without those struggles by which it is generally opposed, or those symptoms which usually harbingers that event in the ordinary course of fatal cases of fever.*

No doubt the discussions which have taken place on this subject have been useful, by lessening too great apprehension of danger from blood-letting, which previously existed; but possibly several of those best qualified, and who first pro-

* Whilst I freely acknowledge the instruction I received from Dr. Armstrong's valuable work on typhus fever, I hope he will excuse me for taking this opportunity to object to the axiom, that "bleeding, if it should not do good, will hardly ever do any harm in the commencement of febrile diseases;" (*a*) an axiom which I fear may be read and acted upon by many, who will not recollect the judicious observations with which his volume elsewhere abounds.

(*a*) Vide Dr. Armstrong's practical illustrations of typhus fever, page 124.

moted that discussion, already have to regret that their views have been mistaken, or that this remedy, intended by them for particular cases under cautious reservations, has been too generally employed,* and on the other hand, though such facts as the preceding, which experience supplies, should ever be kept in mind by those prescribing for patients in typhoid fevers; yet I am free to acknowledge that moderate blood-letting now appears to me not to be so injurious in complicated cases as I formerly supposed, but certainly not more generally necessary in simple typhus.

In many of the simple and milder forms of fevers, too, especially affecting persons disposed to phlogistic diathesis, and of habits or in seasons tending to increase that disposition, the salutary efforts of the constitution do not seem to be materially affected by moderate blood-letting; and though I do not go all the way with the following observation of my esteemed colleague Doctor Hagan, it is valuable in this place as the result of his great experience and acknowledged discernment. “In last August, (1813,) the sick under my care in

* Vide, essay on the utility of blood-letting in fever, by Thomas Mills, M. D. anno 1813. Dr. Mills has the merit of first bringing this question to complete trial in fever hospitals; which is now in such progress, that a satisfactory decision may be expected, if all who have opportunities contribute faithful and unbiassed evidence.

the hospital were 104, of whom 4 died, of the 100 dismissed cured, two only were blooded. I am disposed to think that more than nine-tenths of the 98 cured, without being bled, might have lost a few ounces of blood without injury, but how unfairly should I have referred their recoveries to blood-letting.* We every day see, however, in the periodical works on medical subjects, practical decisions from fewer trials.

In epidemics, and in cases of malignant type, however, blood-letting is more unwarrantable, excitement being rarely very urgent at any stage, and local inflammation is often counteracted or totally overcome by the debilitating effects essential to the disease.

Cases, no doubt, do sometimes happen, in which symptoms of high excitement co-exist with those which mark considerable malignity; and excessive excitement being a powerful cause of exhaustion of vital energy, the safety of the patient cogently demands that it be moderated by the most effectual means. A question then arises between the necessity of blood-letting, and the danger to be apprehended from it, with regard to the malignant symptoms: the prepon-

* Vide Medical Report of the Fever Hospital, and House of Recovery in Cork-street, for the year 1813, by George Hagan, M. D. physician to said hospital, &c, &c.

derance of either train of symptoms is the most certain guide; when they nearly approximate, other means should be tried for correcting partial or general plethora, before recourse is had to blood-letting; for I have often witnessed, that detraction of blood, sufficient to remove the causes of excitement, produced irretrievable injury, by increasing the malignity of the fever.

Though general attention to every symptom is always necessary, in states of fever so difficult to decide on blood-letting, yet the pulse appears to me to afford the most frequent assistance, notwithstanding that it is, in some instances, fallacious. When the pulse is vigorous and equal, the artery feeling to the touch fully distended, its vibrations not materially exceeding 100 in the minute, if blood-letting be otherwise indicated, it perhaps may be employed with comparative security; but in whatever degree it deviates more than this from the natural standard, increased caution, especially in malignant fevers, must be exercised; for, in these diseases, quickness and hardness of the pulse often denote local irritation, smallness with compressibility attend on high degrees or advanced stages of debility: constant examination of the pulse, whilst the blood is flowing, should not be omitted in all cases where typhoid symptoms co-exist with those which

seem to demand venesection ; for, in some cases, the firmness of the pulse suddenly and unexpectedly fails, on the abstraction of two or three ounces, and gives sufficient warning to desist, marking a deficiency of constitutional power.*

The effect of the first bleeding and the appearance of the blood, mostly enable the experienced to judge of the propriety or necessity of repeating the operation ; improvement in the strength of the patient, and of the beat of the pulse, sometimes mark the necessity which existed for that remedy, and firmness and buffing of the blood, give additional hopes of safety from its repetition. I seldom, however, witness such favourable circumstances when the typhoid character of the fever is apparent ; on the contrary, a more rapid failure of the strength and sinking of the spirits is often observable ; whilst the blood, soon after being drawn, assumes a darkish hue, and if left to coagulate, the crassamentum is broken down through the serum.

It was my intention to have extended these few remarks, and to have exemplified them by an abstract of the most interesting particulars, and of the mode of treatment in each of the cases under

* On this subject, vide *Succinct Account of the Contagious Fevers of this Country, &c. &c.* by Thomas Bateman, M. D., London, 1818.

my care, during the last two months of my attendance at the hospital ; but learning that space does not remain disengaged in our transactions, for farther additions to this article, I must refer to the following table which contains the substance of that abstract, and conclude, with brief observations on it. Besides the whole number and the proportion of the sexes which passed under my care in this hospital in two months, this table shews some of the most important circumstances of the histories of the cases, viz. the average continuance of fever, the average time in hospital, and the average mortality: it also exhibits the number who were bled, those who got wine, those to whom purgatives were administered, to whom antimonials; and lastly, those who were bled with leeches, or from the temporal artery.

The whole of the patients under my care in the Fever Hospital and House of Recovery Cork-street, from the 5th of July to the 5th of September, 1818, inclusive.

Total number.		Dismissed cured, or handed over convalescent to the succeeding physician.		Died.			
		Males.	Females.	Of fever.		Of dropsy.	
				Males.	Females.	Females.	Males.
471		328	142	1	3	1	1
		320	134				
Mortality from fever.		Average time of each patient in the hospital.		Proportion of cases in which fever terminated on or before the 7th day, to those in which it terminated after that day.		Total number bled from the arm, and average amount of entire quantity of blood taken.	
1 in 113½		9 days ⅔		4 to 1 nearly.		No. 21	Av. q. 9 oz. None were bled more than once.
Total who got wine or spirituous drinks and average quantity.		Total to whom purgatives were administered.		Total to whom antimonials were administered.		Number for whom topical bleeding or leeches were employed.	
No. Quantity.						No. Average quantity of blood taken.	
86 14½ oz.		460		223		36 6 oz.	

The frequency and rapidity of recovery which the foregoing table exhibits, give satisfactory evidence of the safety and utility of the mode of treatment pursued, and at the same time afford proofs, in addition to those contained in the monthly reports from the fever hospitals throughout the united kingdom, of increasing improvement in the character of the epidemic, the mortality being so much under the usual average though the treatment has not been materially altered.

This improvement, however, chiefly regards the length of continuance and the termination of the disease, the cases of short duration being very generally accompanied with distressing and severe disorder of the functions, and those more protracted being marked with symptoms of considerable debility.

Severe pains of the limbs were complained of by a great number of those patients, which often continued to harrass them after other symptoms of fever had subsided, in some instances till relapses, which have latterly occurred much more frequently than usual, had taken place.

Another remarkable peculiarity of this epidemic was a considerable degree of appetite, even whilst fever continued urgent, and in two of the

fatal cases enumerated, desire for food was expressed a few hours before dissolution.

The contagion of fever was also unusually active during these two months, a greater number of the attendants of the hospital being affected by it than in any equal period, namely two physicians, one surgeon, a porter and six nurses ; in several of whom the symptoms were extremely urgent and alarming, but in all happily terminated in recovery.

The following is the table of the diet, adopted in this hospital.

TABLE OF DIET.

Patients full meat diet.

1 pound of Bread	} to be disposed thus.	Breakfast.	{ $\frac{1}{2}$ pound bread
$\frac{1}{2}$ do. boiled beef without bone			{ $\frac{5}{6}$ pint pure new milk
1 pint of broth		Dinner.	{ $\frac{1}{2}$ pound bread
$\frac{5}{8}$ quart pure new milk			{ $\frac{1}{2}$ do. boiled beef without bone
1 pint flummery		Supper.	{ 1 pint broth
			{ 1 pint flummery
			{ $\frac{5}{6}$ pint pure new milk

Patients full fast diet.

$\frac{1}{2}$ pound bread	}	Breakfast.	{ $\frac{1}{2}$ pound bread
2 pounds potatoes			{ $\frac{5}{6}$ pint pure new milk
$1\frac{1}{4}$ quarts pure milk		Dinner.	{ 2 pounds potatoes
$\frac{1}{2}$ pint butter milk			{ $1\frac{1}{2}$ pint pure new milk
1 pint flummery		Supper.	{ $\frac{1}{2}$ pint butter milk
			{ $\frac{5}{6}$ pint pure new milk
			{ 1 pint flummery

Patients middle bread diet.

1 pound bread	}	Breakfast.	{ $\frac{1}{2}$ pound bread
1 pint broth			{ $\frac{5}{6}$ pint pure new milk
$1\frac{1}{4}$ quart pure new milk		Dinner.	{ $\frac{1}{2}$ pound bread
$\frac{1}{2}$ pint butter milk			{ 1 pint broth
1 pint flummery		Supper.	{ $\frac{5}{6}$ pint pure new milk
			{ 1 pint flummery
			{ $\frac{5}{6}$ pint pure new milk
			{ $\frac{1}{2}$ pint butter milk for drink as required

Patients middle diet.

$\frac{1}{4}$ pound bread	}	Dinner.	{ $\frac{1}{4}$ pound bread
1 pint broth			{ 1 pint broth
$1\frac{1}{4}$ quart pure new milk		Supper.	{ $\frac{5}{6}$ pint pure new milk
1 pint flummery			{ 1 pint flummery
1 pint butter milk			{ $1\frac{2}{3}$ pint pure new milk
			{ 1 pint butter milk for drink as required

Patients low flummery diet.

$1\frac{1}{2}$ quart pure new milk
 $\frac{3}{4}$ quarts butter milk
 1 pint flummery

}

Supper. { $\frac{5}{6}$ pint pure new milk
 1 pint flummery

drink as { $1\frac{1}{2}$ quart pure new milk
 required. { $\frac{3}{4}$ quart butter milk

Patients low bread diet.

$1\frac{1}{2}$ quart pure new milk
 $\frac{3}{4}$ quart butter milk
 1 pint flummery

}

{ $\frac{1}{4}$ pound bread to eat
 when inclined.
 drink as { $1\frac{1}{2}$ quart pure new milk
 required. { $\frac{3}{4}$ quart butter milk

Patients low diet.

$1\frac{1}{2}$ quart pure new milk
 $\frac{3}{4}$ quart butter milk

}

drink as
 required.

Nurses and Servants meat diet.

1 pound bread
 $\frac{1}{2}$ pound beef without bone
 $\frac{1}{2}$ pint new milk
 2 ounces butter

Nurses 2s. 1d. per week for tea and sugar

Servants 1s. 8d. per week for do.

Nurses and Servants fast diet.

1 pound bread.
 2 pounds potatoes
 $\frac{1}{2}$ pint pure new milk
 1 pint butter milk
 2 ounces butter

Note— $\frac{2}{3}$ of a pound of raw beef is allowed for $\frac{1}{2}$ pound boiled, without bone

$\frac{1}{4}$ of a pound of raw beef is allowed for 1 pint broth, the beef for eating being also boiled therein.

1 quart of water is added to 5 quarts pure new milk for the ordinary diet of the patients.

2 quarts of water is added to five quarts pure new milk for making whey.

The whey for patients is made in quantity, some will drink much more than the quantity allowed, others less; each or all getting as much as they incline to drink, is found to average nearly the quantity allowed in the foregoing table.

MEDICAL REPORT
OF THE
SICK POOR INSTITUTION,
FOR THE YEAR
1817.

BY
JOHN O'BRIEN, M. D.

FELLOW OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS IN IRELAND,
&c. &c.

FROM the peculiar circumstances of the last year, in which an unusual scarcity of provisions has been accompanied and succeeded by a formidable extent of disease, particularly contagious fever, among the poorer classes through the kingdom ; the medical history of the Sick Poor Institution, which embraces so large a portion of the poor population of Dublin, becomes an object of greater interest and public importance than at any former period.

Previous to entering on the immediate subject of this report, however, it may not be amiss to

give a short account of the local circumstances and domestic arrangement of the Institution, by which it has succeeded in acquiring the public confidence, and attaining much of the benevolent object proposed by its original founders.

The Institution was opened in the year 1794, by private subscription, and since supported solely from the same source ; it is superintended by a committee of thirty gentlemen, chosen annually by the subscribers, who meet once a week or fortnight as occasion may require, for the management of its affairs. Its medical establishment consists of five physicians and a surgeon, who attend daily at an early hour, among whom the duty is divided in the following manner.

One physician appointed in rotation to do the intern duty, attends every morning at the dispensary, to give advice to such patients as labour under slight or chronic ailments, which do not confine them at home ; whilst the other four physicians and surgeon, attend at the houses of the sick in those cases which preclude personal attendance at the dispensary. By this arrangement, the south west division of the city, including the earl of Meath's Liberty, is divided into four medical districts, (each attended by a physician) which comprise five parishes and the deanery of St. Patrick's, containing according to the estimate of the

late Mr. Whitelaw, a population of 54000 inhabitants, the great majority of whom are of the poorer class, this part of the city being chiefly inhabited by poor manufacturers and labourers, and being the sleeping place of the numerous mendicants who infest the streets by day.

It is a curious fact, that notwithstanding the decay of certain manufactures in the Liberty, and notwithstanding the existence of every impediment which poverty and disease could throw in its way, the population of this district has remained nearly stationary for the last twenty years since Mr. Whitelaw's time. By the returns made of the population of Dublin in the year 1813 by order of government, it appears that the aggregate population of the five parishes which compose our district, together with the deanery of St. Patrick's, was found to be 52884* which presents a small decrease from Mr. Whitelaw's return. It is highly probable, however, that this decrease has been more than compensated in the last four years, by the return of a great number of soldiers and sailors who were disbanded since the last peace, and that Mr. Whitelaw's estimate is rather under than over the present population of the district.

In the midst of this very crowded and wretched

* See Gregory's Picture of Dublin.

population, is this Institution situated, and its importance and utility in the centre of a manufacturing populace, whose daily subsistence is gained by bodily labour, and consequently altogether dependant on their health, may be easily conceived—during the last year alone, 11225 patients have been registered, as receiving medical and surgical aid, and since the foundation of the institution 147842—from the year 1812, the total number for each year was as follows,

Year 1812	total	7834
1813		9385
1814		7884
1815		8435
1816		8753
1817		11225

In the beginning of the year 1816, an important addition was made to the institution, by the establishment of a nourishment dispensary within its precincts, called from its late amiable patroness, the “Dorset Nourishment Dispensary,” whose object is to supply the sick and convalescent with appropriate diet. The Nourishment Institution is directed by a committee of ladies, who daily superintend the distribution of nourishment to those persons recommended by the physicians as proper objects, on being visited at their houses. No charitable institution probably was ever estab-

lished in this city, which has afforded more seasonable relief, or produced such a general sentiment of gratitude among the poor as this ; and indeed the novel and interesting picture of charity, presented by this benevolent association of ladies, is calculated to inspire such feelings generally : in the last year, (a year of great scarcity and distress) this institution was productive of incalculable benefit to the poor, and I am convinced many individuals were saved from starving by its means.

The nourishment distributed consists of bread, whey, gruel, and broth, each of excellent quality, and directed separately or together according to the exigency of the case ; coals are also distributed in Winter.

As the patients of this institution are divided into two classes, those affected with acute diseases who are visited at their houses by the extern physician, and those affected with chronic, who mostly apply to the intern physician : I shall divide the following observations into two parts suited to the classes above mentioned. By far the most frequent of the acute diseases which fall under our observation are fevers, to which the lower classes of this metropolis have been more subject for the last thirty years, than I believe any other city in Europe, even of much greater extent. In

a letter published some time since in the Morning Chronicle, by Doctor Bateman, physician to the Fever Institution, London, it is stated, that the total number of patients admitted to that Institution for the last ten years (previous to the year 1817,) amounted only to six hundred ; whilst the number admitted to the Fever Hospital, Cork-st. *alone*, (for the same period) has amounted to about 24,000, a vast disproportion, when we consider the relative population of both cities.

The causes of this calamitous state of disease present themselves too obviously to the commonest observer to require any subtlety, or minuteness of reasoning for their investigation : they are partly general, and perhaps uncontrollable, affecting lately the poor population of the whole empire, but particularly of this country ; namely, want of employment, poverty, and famine ; but they are also the effect of local causes in this country, unhappily deep laid in the frame of society, and arising from manners and habits generated by ages of civil and moral degradation, which has checked the natural progress of civilization, and perpetuated barbarism among this unhappy people ; exhibiting a population increasing but not improving, blending most of the vices of civilization with the ignorance, apathy, sloth, and dirty habits, of complete barbarism. Such is the melancholy picture presented by the lowest classes in this coun

try, and to this state the extraordinary permanency of contagious fever, so often the subject of wonder and inquiry, is partly to be attributed.

In this very populous district the disregard of cleanliness is more noxious than in other parts of the metropolis. The bulk of the inhabitants of this quarter of the town, it is well known, is composed of poor weavers, who are not only confined over the loom throughout the day, but whose numerous families are crowded into single apartments, the loom occupying the whole centre, and the beds of the family the corners of the room, in a manner the most unfavourable to cleanliness.

Nothing can possibly be conceived more unpropitious to the human constitution than the state in which many of these families live, confined several at work together in the same room through the day, in an atmosphere impregnated with the effluvia of a back-yard or staircase, and entry actually overflowing with filth.

In many of those houses it is not uncommon to see the ruinous overflowing necessary openly communicating with the hall and staircase, or the back part of the hall itself, and the cavity beneath the stairs, (*horresco referens*) converted into the common necessary and dunghill of the numerous inhabitants, and loading the air with their putridity. Besides the houses, the lanes, and alleys, in which

the poorest and mendicant class reside, are generally in such a miserable state of filth, as to be scarcely passable by any, but their own squalid and bare-legged inhabitants.

In dwelling even thus far on the miserable condition of the poor, of which the above description is but a partial outline, I fear that sufficient allowance has not been made for the natural disgust of every reader to scenes of this kind. I have been led to it merely by the hope of drawing the public attention to this important subject, and lessening the sources of disease and misery. A much more ample and affecting detail will be found in the useful work of Mr. Whitelaw, whose description, so far from exaggeration, is scarcely a full picture of the filth and misery to be found among the poor of this city.

The scarcity of provisions last year, combined with the consequences of the sudden termination of the war, had increased the misery of the poor to its utmost height; and from this period we may date the origin of the present epidemic fever which has made, and continues to make, great ravages through the kingdom. These evils operating in a wider sphere on the dense and crowded population of this and the other great cities, have produced more fatal effects, as might be expected, than elsewhere, and appear to verify the observation of Mr.

Malthus, that pestilential diseases are the inevitable attendants on a population too great for its means of subsistence.

Thus, want and poverty, aggravated by domestic habits and manners, are the radical causes of the endemic fever of this city ; and these evils swelled to their maximum by the circumstances of the times, have produced the present epidemic, which deserves this name rather from an increase of numbers than any change of character or malignity in the usual fever.

The agency of those general causes is conspicuous in all the details of their operations. They produce increased susceptibility to contagion by depressing the powers of life.—Crowded and filthy apartments, and deficient ventilation from a necessity of excluding cold.—clothing never washed or changed—bedding and straw seldom changed, and retaining the contagion of several successive persons inflicted with fever—a reckless and profligate state of mind, which, I believe, in every stage of human society, prompts the comfortless and unhappy to drown their sense of misery in the oblivion of intoxication, unless supported by religion. The description of this melancholy state of things is neither flattering to our pride nor grateful to our feelings ; but it is vain to devise measures of prevention, whilst we hide from ourselves or varnish over the real causes.

It is a singular circumstance that the epidemic fever which had made great ravages through the rest of the kingdom, was very slow in showing itself in this city, and until the last four or five months, could scarcely be supposed to have made its appearance. The truth is, that a people among whom an endemic fever had so long existed, became less susceptible to the ingress of a new epidemic, than those who had not been accustomed to its influence; they became inured to the contagion, and were acted on more slowly, and thus, by a curious collision of evils, the bane became the antidote. It may be remarked also, that the want of provisions was much less felt in this city than in the country, owing to the large contributions made by the upper ranks, by which the evils of famine were considerably mitigated. There is reason to fear, however, that the immunity we experienced in the early part and middle part of the year no longer exists, and that the epidemic has finally extended itself to the metropolis.

The following table, which is accurately copied from the monthly general lists of the physicians, will exhibit the encrease for the four last months, compared with the years 1814, 1815, 1816, and 1817, and January 1818.

CONTAGIOUS FEVER.

	1814-15	1815-16	1816-17	1817-18
October	72	252	111	208
November	111	224	117	226
December	116	167	170	301
January	71	161	117	360

From the vast variety to be observed in fevers, both as to duration and intensity, their classification is extremely difficult, if not impossible. The division of Dr. Cullen is palpably indistinct, according, indeed, to his own confession, and his too genera typhus and synochus, graduate into each other with such minute shades of difference, that physicians, the most familiar with their habits, will sometimes differ in denominating them. Hence a great irregularity appears in our previous annual lists—on one year the quantity of typhus appears too small, on another enormously large, whilst there is little difference in the total amount of fever. I have thought it better, therefore, to omit here the division altogether, and retain only the name of the natural order.

It appears, by the above statement, that a most material increase of contagious fever has taken place in the last two months—indeed so great is

the prevalence of fever at present, that few other diseases appear in the returns of the extern physicians.

The first great step to checking the progress of contagious fever, is evidently to separate the infected from the healthy, by providing sufficient hospital accomodation for the sick; this the liberality of government, who in this instance has evinced much zeal and humanity, has effected to a great extent, accomodation being at present provided for more than 1000 fever patients in this city. Although I am well aware that the establishment of fever hospitals is attended with great advantage for the suppression of fever, by lessening the mortality, and contracting the sphere of contagion and misery, yet the experience of twelve years, since the establishment of the fever hospital in Cork-street, has proved, that hospitals alone are insufficient for the extinction of this disease. Since the foundation of that hospital, the quantity of fever has annually increased, so that the very extensive accommodation, at present provided, is insufficient for the formidable increase of disease. Although the hospital system must form a part of every general plan of prevention, yet it appears to me that no system will ever be effectual, but that which applies itself to the residences of the poor in the first instance, and destroys the seeds of contagion at its original source. To ef-

fect this desirable object, the following measures appear to me the most effectual :

1st.—The appointment of district committees, who shall take cognizance of the state of each house.

2d.—Public washing houses for cleansing the bedding, cloathing, and furniture of the poor, where infection exists.

3d.—Receiving-houses, to receive the families of infected persons in particular cases, where houses have been a long time infected, in order to admit of a perfect cleansing and fumigation: after which the family might return with probable impunity.

4th.—Every exertion should be made to procure employment for the unemployed, and the success which has attended the efforts of the association for suppressing mendicity, proves how much activity and benevolence may effect in attaining this object.

The above is the essential part of a plan lately submitted to one of the parishes of this city, by the physicians of the fever hospital, Cork-street, and subsequently recommended to the public, by the medical committee of the association for sup-

pressing mendicity in this city. Although these measures may be attended with expense at first, I have no doubt they would ultimately prove economical, from the diminution of the number of hospitals which would be the result.

Of the contagious nature of the fevers of our climate, some doubts have been lately expressed, chiefly, I believe, by some medical gentlemen of the army, who had long been accustomed to the remittent fevers of warm climates. On this subject an interesting little pamphlet has been lately published by Dr. Stokes, late professor of physic in our university, who appears to me to have refuted the opinion in a very satisfactory manner. Although these opinions have been very little attended to by the public, and further argument is unnecessary on a subject which public opinion has long since decided, yet I cannot help mentioning, in illustration of this important subject, a few facts, which have fallen under my own immediate observation in relation to the medical officers and attendants at the fever hospital, Cork-street.—Of nine physicians, who have acted as permanent physicians to the fever hospital since its foundation, five have had contagious fever, and two of the five have died of that disease—of the four remaining, two had contagious fever previous to their connection with the hospital—of eight apothecaries, one only escaped. Of the

nurses employed in the hospital every individual,* as far as I can learn, who has resided for a year or upwards, has had contagious fever, and some have had the disease three or four times—none of the physicians or apothecaries, however, had the disease more than once hitherto. We see by this account that the physicians who had less intercourse with the sick, than the other two classes of attendants, escaped in a greater proportion. The escape of so great a proportion of physicians, who must every day handle and minutely examine between forty and fifty fever patients, appears to prove that the disease, though certainly contagious, is not very contagious, and it is only probably under circumstances of strict and frequent intercourse with the sick, when frequent contact takes place, or the patient's breath is inhaled by the organs of respiration, that contagion is capable of producing its effects in our climate.

The physicians of the sick poor Institution have been still more fortunate, two † only having had contagious fever, within my recollection, one of

* There is one curious exception to this—one nurse who has been in the hospital ten years has not had the fever.

† Since writing the above, two other physicians have been attacked by fever.

whom unfortunately died: * the other had been also connected with the fever hospital—their duty, however, obliges them to be every day in cellars and garrets in the midst of infection and in the most filthy and crowded apartments—their escape is undoubtedly the consequence of the shortness of time in which they remain exposed, and their coming immediately again into the fresh air, an advantage which they enjoy over the hospital physician, who must remain for a considerable time in the wards.

Although I believe in the contagious nature of the typhus fever of our climate, I do not assent to the opinion that it is the only source of the disease. Indeed if this opinion were true, we must be reduced to the necessity of supposing that all contagious diseases were derived from Adam himself. The fact, therefore, appears to be, that although the contagious diseases chiefly propagate themselves by contagion, by which I understand not only actual contact of the sick, but the effluvia arising from the diseased body; they are also capable of being developed by different other poisons either external depending on a vitiated state of the atmosphere, or internal, on a vitiated state of the animal fluids. These poisons are of so subtile a nature as to elude the search of the che-

* I allude to the much lamented Dr. Kearney, a gentleman of the highest promise, whose talents and acquirements were only exceeded by his modesty and worth.

mist, and chemistry has vainly exercised her powers in detecting them. The well known effect of the vitiated atmosphere of marshes or miasma, as it is called, in producing intermittent and remittent fevers, affords a palpable proof of the power of atmospheric poisons, and the equally well known effect of vitiated bile in producing bilious fevers, a proof of the effect of internal poisons.—Many of these fevers, though not contagious in their origin, become so in their decline, and generate others of a much worse description than the original—and this is the way in which epidemics appear and circulate.

The laws after all, which govern the origin and propagation of fever, are so obscure and uncertain, that every candid inquirer must admit that nothing but probability remains to guide our opinions through the difficulty of this subject. The admission that fever arises from a certain unhealthy constitution of the atmosphere, which is evidently beyond the reach of human intelligence, and beyond its control, seems to have a tendency to paralyse our efforts at prevention, which has reference to contagion principally, and is founded chiefly on that principle.

But the history of all great epidemics, and particularly of the plague, which, if not the same disease as our typhus, modified by climate, at least

bears a strong analogy to it, exhibit the most striking effects from removing the uninfected beyond the sphere of contagion. In fact, in whatever point of view we attempt to reason on this subject, so many objections and difficulties remain to be accounted for, that certain or definite conclusion cannot be arrived at. Whatever other sources of the disease may exist, it is pretty certain, that contagion is a most powerful and active instrument of its propagation; and being more within our control than the other poisons, perhaps, it were more for the interest of society in order to stimulate precautionary exertion, that contagion should be considered as the sole agent in the origin and progress of fever.

Into the treatment of fever, which has undergone ample discussion in the reports of the fever hospital, Cork-street, I shall not enter at present; and shall only add that I have as yet seen no reason for altering the opinions I have already expressed on this subject in the report of that hospital for the year 1814, published in the first volume of this work. I cannot, however, omit this opportunity of expressing my dissent from the opinion that this disease is to be considered one of the phlegmasiæ, and our treatment guided by this hypothesis. Although an inflammation, or rather sub-inflammation, of different organs will frequently appear in the progress of this disease, yet in my

opinion they are never to be considered as the primary disease, but as secondary symptoms, the consequence of an unequal distribution of blood produced by the primary disease. With respect to the brain, which is the organ most seriously and frequently affected, it appears to me that of two very different conditions, its state approximates more to apoplexy from fulness of vessels, than phrenitis, the local vascular debility producing congestion or accumulation of blood in its vessels, of which the coma and species of delirium are the consequence.—I know no term better calculated to express this state of the brain than sub-inflammation. Blood-letting, therefore, unless where distinct symptoms of acute inflammation exist, ought to be employed only as a palliative to the symptoms arising from the unequal distribution of blood, but never as a specific cure for the disease as in the phlegmasiæ, unless so far as the relief of particular symptoms contributes to the general effect. If you set about curing the delirious patient in typhus fever as you would the phrènitic in phrenitis, you will find in a great majority of cases, that death will be the consequence of those large evacuations of blood which are indispensable in the latter disease. In fine, there is every reason to fear that an extravagant and injudicious use of this remedy, may ultimately bring it into disrepute, a fate which it has more than once before undergone, as is evident from the history of physic.

Next to favour of the acute diseases, dysentery assumed a severity and malignity in the last year, unexampled according to my experience for the last seven years in this district. This disease is generally mild in our climate, and seems to acquire malignity and an infectious nature only at particular seasons, or in camps where large bodies of men are collected together. Whoever reads the accounts of Cleghorn or Pringle, will imagine this a disease much more formidable than we find it in common life. It sometimes, however, prevails as an epidemic, and then assumes a more severe and dangerous character, and such was the case last year, so that through the summer and early part of the autumn, it appeared to be the prevailing epidemic. I found the simple mode of treatment which always previously succeeded in this disease, and consisted in alternating active purgatives with opiates, quite inefficient in the dysentery of last year. The disease, which was evidently produced by the bad quality of the bread and other food of the poor, was attended with strong inflammatory fever and severe tormina of the bowels, which very nearly approximated to enteritis. In all cases, therefore, of unusual severity, I had recourse to venesection at the commencement, which was repeated until the tormina became mitigated, and the pulse indicated a remission of inflammatory fever. After blood-letting, the remedy which produced the most remarkable benefit

was, a powder composed of 10 grs. of Dover's powders, and 1 gr. calomel, taken twice or sometimes thrice a day, according to the exigency ; during the use of these powders a purging draught, consisting of infusion of senna and sulphat of magnesia, was given every second day until the scybalæ disappeared. In addition to the above fomentations with diluted spirit of turpentine, semicupium and flannel bandages around the belly, were sometimes directed, but the powders above mentioned were thought to give the most substantial relief.

The other acute diseases of most frequent occurrence are such as the mode of life of the lower classes necessarily render them liable to from their constant exposure to wet and cold, and the deficiency of their clothing, namely pneumonia and acute rheumatism. Of both diseases, though some severe cases have occurred to me in the year, none have resisted the treatment laid down in all elementary books on the subject. Both diseases are always accompanied with severe inflammatory fever : but, as they sometimes occur, though always with less violent local pain in combination with typhus fever, some discrimination is necessary to determine which is the primary disease.— This distinction is of great importance in regulating the plan of cure, as though blood-letting, under proper restrictions, appears to me to be appli-

cable to the idiopathic fever, it is by no means applicable to the same extent, nor always in the same form as in primary pneumonia and rheumatism.— Indeed the opinion I have before mentioned that fever is to be classed among the phlegmasiæ, is likely in many instances to produce a neglect of the distinction here alluded to. Between the symptomatic fever which attends the local inflammation of the viscera and the true idiopathic fever, on which these inflammations supervene, the points of resemblance are *sometimes* so strong, that much experience and accuracy are necessary to distinguish them. The distinction notwithstanding, in my opinion, is always practicable, and on it the right treatment of the disease must depend. In the acute rheumatism and pneumonia, copious blood-letting is the only remedy to be depended on, which in both diseases must be repeated until the absence of pain demonstrates the resolution of inflammation—when this plan is pursued with vigour in acute rheumatism, it is seldom that sudorifics will be necessary; but in all cases frictions with the liniment ammoniæ fort, together with flannel or woollen bandages, have been found by me a very useful auxiliary in shortening the duration of the disease.

Concerning the use of cinchona in rheumatism, much diversity of opinion exists among the most respectable medical writers; some, as Fordyce,

extolling it to the skies ; and others, as Cullen, attributing to it little or no power. This variety of opinion, however, is not extraordinary when it is understood that bark really observes a great variety in its effects, when administered in this disorder : with one patient it will often effect a rapid cure, whilst on another it will be almost inert. This uncertainty has arisen probably from the different stages of the disorder in which this medicine has been exhibited. After much attention to its effects, it appears to me that it is only when the acute fever has been subdued by evacuations, that the bark can be given with any tolerable hope of success ; immediately after this has begun to abate, the bark will be found in many instances to produce a rapid cure. In the first stage of the acute rheumatism, or in chronic pains of any standing, I have seldom known it to do much good, though in the latter it will often give relief, and I believe has never done harm. In the sciatica and local pains of the hip and loins, turpentine has often given relief, but the medicine which I have used with the greatest success in these cases is, a combination of aloes, guaiacum and essential oil of sassafras.

In pneumonia, blisters applied to the sternum, sides, or between the shoulders, are the most powerful agents we possess in aid of blood-letting ; in some cases indeed, they are the chief remedy

to be depended on in this disease. It often happens that persons of lax fibre and delicate constitution are attacked with pneumonia, and in such persons effusion into the cavities of the chest or the air cells of the lungs very rapidly takes place, unless blood-letting be immediately resorted to ; when cases of this kind occur, and they are unfortunately very frequent, blood-letting will never afford any thing but temporary relief to the symptoms, which will generally again return with aggravated violence—this arises from the debility produced by venesection, inducing a further laxity of the exhalents, and favouring that effusion which has already commenced. Elderly persons, and even the middle aged in the poorer ranks, are very apt to fall into this state of disease, because the life of toil and distress which they lead, generally brings on a premature old age and debility. In those cases, blisters and expectorants are the remedies most likely to give relief. I generally direct a pill composed of one grain of squill and one grain of calomel twice a day, with blisters in succession to the breast, sides and back ; a pectoral mixture consisting of the infusion semin. lini and squill or ipecacuan with tinct. of digitalis, is at the same time directed. In those cases where stimulants of a diaphoretic quality seem to be demanded, the camphor mixture is joined to the above.

In the autumnal months, cholera, a disease very familiar to the poor, and generally with them succeeding violent intoxication, was very prevalent. Harassing and debilitating as this complaint is to an extreme degree, there are few in the catalogue, more certainly under the control of medicine. I have met with several patients in this disease, exhausted to the utmost debility, with a pulse scarcely perceptible, and a voice scarcely audible, restored in a few hours by repeated doses of the tincture of opium. There is no disease perhaps, where the powers of life are quickly sunk so low, and where the relief is so ready, as that which this medicine bestows; none in which the poor patient is filled with so lively a gratitude, and impressed with the virtue of medicine, or which affords the physician so certain and pleasing a consciousness of having done good.

It is a remarkable, though a well known circumstance to physicians, that females are not near so subject to pneumonia as males, and this is not to be attributed to their greater confinement within doors, for the females of the lower class in this district, are as much, or even more exposed to the inclemency of the weather than the men, for they support themselves generally by carrying baskets, or sitting in the streets selling vegetables, fish, &c.—their exemption appears to be the consequence not only of less rigidity of fibre, but of

those obvious peculiarities of the female constitution, which render them less liable to the diseases of the phlegmasiæ class.

The above, are by much the most frequent of the acute diseases which occur in the practice of the dispensary. In the last four months of the past year indeed, both measles and natural small pox, have been very prevalent among the children of this district. The former was in general mild, but the latter was more malignant and fatal than I have known it for several years before, being mostly of the confluent kind. In one child who died, the face appeared as one uniform ulcerated surface, whilst on the rest of the body, large deep coloured petechiæ appeared, occupying the interstices of the pustules. The pustules themselves, shortly before death, appeared black and gangrenous at their apices. The treatment recommended by the great Sydenham, is marked by the peculiar genius of that illustrious physician, and consists chiefly in the application of sedative remedies, as cold air externally, and opium internally, to allay the irritation of so extensive an ulceration. It appears to me, that cold or tepid sponging of the skin, forms a proper part of the system, and may be applied with advantage. Fortunately the discovery of vaccination renders any remarks on the medical treatment of small-pox at present hardly necessary; it is only in the

crowded and wretched population, whose medical history I am describing, that the disease *often* appears. Although a useful and benevolent institution has been established for several years in this city for the purpose of gratuitous vaccination, yet such is the apathy and utter disregard to the means of warding off disease among the poor, feelings no doubt ingendered by the hapless state of misery in which they live, that many neglect to apply for this useful antidote. I have often thought that vaccination, on a limited scale, might be introduced with great utility at the Sick Poor Institution, as the proximity, and greater facility of obtaining it, would probably operate as an inducement to apply for it.

I now come to the diseases of the chronic class, which, though not so rapidly destructive to life as those just now described, are much more perplexing to the physician, not only from the indistinct indications which they often present, but from the various contradictory causes which are sometimes combined for their production. Although every species of chronic complaint, to which the human frame is liable, occasionally falls under the eye of the intern physician, yet by far the greatest number are comprehended in the list of dyspepsia, and chronic pulmonary complaints, as cough, asthma, dyspnæa, phthisis, &c. The next class of chronic complaints, of most frequent oc-

currence, are the peculiar sexual diseases of females, who indeed form a considerable majority of the whole number of patients who consult the intern physician. The next are the eruptive diseases of children and adults, which also form a numerous class of applicants, and are found almost in every variety which has hitherto been observed.

Although dyspepsia frequently exists as a primary disease, arising from slight inflammation, and thickening of the coats of the stomach in which ulceration, and even erosion have been detected by dissection, yet I believe in general, it is symptomatic of diseases of the surrounding viscera, and chiefly of the liver. To the unfortunate habit of drinking ardent spirits, the frequent occurrence of this disorder is chiefly to be attributed, although I am convinced the quality of the food has also some effect in producing the disease—the dyspepsia of the poor, and indeed of the rich, arises generally from induration of the liver, and, from the same cause, arise the numerous instances of anasarca and ascites to be met with among the poor.

The plan which I have found most successful in this complaint, consists in directing 3 grains of the compound myrrh, or assafoetida pill, with 2 grains of the blue pill twice a day, until the

mouth exhibits slight indications of the mercurial influence. At the same time, the infus. gentian. comp. with a small proportion of rhubarb and carbonat of soda, is directed thrice a day. This plan, with proper attention to the bowels, has generally succeeded in relieving the symptoms; but as the causes of the disease remain constantly in operation, the relief is often only temporary.

An anomolous case of jaundice occurred some time since, which I think it worth while relating here from the novelty and peculiarity of appearances presented by dissection; I regret, however, that a change of districts which occurred at the time, together with an unusual pressure on the institution, did not allow me to follow this case throughout, or keep an accurate history of the previous disease.

The patient, a young woman about nineteen years of age, was apparently healthy before her present illness, being plump and well proportioned; on visiting her, I found her labouring under well marked appearances of jaundice; the entire skin, and the conjunctiva of the eye of a deep yellow colour; her pulse about 110 in a minute, and indicating strongly the presence of fever; there was no delirium however, but she complained much of want of sleep.

On examining the epigastrium, I found it tu-

mid and distended, but no pain was felt on pressure, either there or in the side, and she declared she had never been subject to pain of the right side or shoulder, and no hardness was perceptible below the margin of the ribs: the prominent symptoms were the feverish state of the skin and pulse, the yellowness of the skin, and the projection of the epigastrium, together with obstinate costiveness, which she stated to have existed for several days. Under those circumstances, an active purgative plan of treatment was immediately commenced, with warm fomentation of the epigastrium and abdomen; on two successive days she took five and six grains of calomel, with a scruple of the pulv. jalap, comp. without any effect; on the third day three or four stools were procured: the purgative plan henceforward, with small doses of calomel at night, was continued during my attendance, without making any impression on the disorder. The head seemed to become more and more engaged, and the feverish symptoms to increase, and she was more or less delirious every night, yet she was perfectly in her senses during the day, and complained of no particular pain. In this state of things, a change of districts having taken place, the patient was transferred to the care of another physician, one of my colleagues, who continued the purgative plan of treatment which I had commenced; unhappily our efforts proved unavailing;

the patient died in about fourteen days after my first visit.

An examination of the body being permitted, the dissection was performed by my friend Mr. T. Roney surgeon of the institution, in presence of the physician above mentioned and myself.—After a very minute examination of the liver and surrounding parts, no adequate cause for the disease could be discovered; the gall-bladder was found empty, and the ducts completely pervious, admitting air to pass from a small blow pipe through their entire extent—the liver appeared natural both in size and structure, but was of a yellow or rather saffron colour through its whole texture; a few small tubercles only were found in its substance. The head of the pancreas was at first thought a little enlarged, but on minute inspection, it was agreed that no enlargement existed, which could account for the disease.

My attention had been fixed on this case by those of a similar nature, related by Dr. Cheyne in the Dublin hospital reports, to whose ingenious observations I beg leave to refer the reader.

It is evident from the state of the gall-bladder in this case, that the obstruction must have existed, either in the upper part of the hepatic duct, or in the biliary pores themselves, by which a

regurgitation of bile into the blood-vessels took place ; and to explain it, I see no necessity for rejecting the opinion of Morgagni, who in a few cases of jaundice with unobstructed ducts which he describes, attributes the effects to spasm of the hepatic duct,* and thence communicated to the biliary pores ; if this view of the case be correct, opium and antispasmodics would have been the proper remedies. From the mild and progressive nature of the fever, I think we must consider it only symptomatic.

Dropsical complaints are the most fatal and unmanagable we meet with among the poor, generally occurring in old debilitated persons, who in the total absence of cleanliness, comfort and attendance, can seldom persevere in, or support the course of medicine necessary for their cure.

In a favorable case of hydrothorax, which lately occurred to me, the cure was accomplished by digitalis and blisters, together with small

* Ad frequentiores causas primum convulsiones attinent et hinc ortæ crispaturæ ad initia usque ramusculorum ductus hepatici propagatæ eosque constringentes ; quarum hic effectus quanquam sub sensum cadere non potest tamen rationi adeo consonus est, ut a nobis facile ad cæteros illos explicandos adhibeatur, qui a vehementibus animi affectibus aut doloribus originem habeant.

bleedings from the arm. Two cases of anasarca were cured by small doses of the blue pill, with the purging electuary of crystals of tartar and jalap. A case of ascites, was cured by a gr. of squill and calomel, night and morning, with the electuary above mentioned, and a plentiful use of the potus tartari; the tartrate of iron was also given in this case with the most decided benefit. I regret that the state of the urine was not noted in the above cases, but so far as it has been done in the cases which have occurred to me in private practice, the result has fully verified the ingenious views of Dr. Blackall.

The sexual diseases of females, form a great proportion of those cases which fall under the care of the intern physician; and indeed it is extraordinary, to what an extent the females of the lower class in this city are afflicted with these disorders. Such is the life of toil and privation which those unfortunate creatures lead, that it is rare to meet with one who is not afflicted with those disorders in one shape or another.

For amenorea the remedies which I find most effectual are, the compound myrrh pill, with a small proportion of sulphat of iron night and morning, interposing brisk aloetic purges as occasion may require. The rubia tinctorum, which has fallen into disuse, I have lately tried with success,

in two instances, which resisted the remedies above mentioned ; it was given so as to produce a strong purgative effect. With camomile flowers, recommended by Heberden, I have succeeded in one obstinate case, on which several other emmenagogues were tried in vain. For leucorea and menoragia, astringents externally, and tonics internally, generally succeed, unless, as often happens, they arise from organic derangement. For leucorea I mostly direct the inf. cinchon. or inf. gentian. comp. with a few grains of carb. ammoniæ, and externally injections of a solution of sulph. of zinc or alum either in water or a decoction of oak bark—on this subject a very useful admonition, which ought to be carefully attended to by females, is given by Dr. Latham in the 5th vol. of the transactions of the London College of Physicians. For menoragia we must have recourse to strong astringents internally, as small doses of the styptic powder, alum whey, &c., and opiates to stop the discharge of blood.

Cough, chronic, catarrh and asthma, are always epidemic among the poor, and the necessary consequence of their mode of life ; a great part immured for the whole day, in small crowded apartments, engaged at their several trades, come forth in the evening, scantily clothed, to inhale the cold air of a humid atmosphere. Hence they are constantly harassed by pulmonary complaints of

one kind or other. For these the pectoral mixture above-mentioned, made with squill or ipecac. together with the warm-plaister on the chest, &c. is the general remedy, with an injunction to abstain from animal food and malt liquors. The form of asthma, which is by far the most common, is the serous or pituitous as it is called, which is the usual companion of old age among the poor, and is frequently aggravated into the disease called peripneumonia notha. In those cases, after a moderate blood-letting, emetics of ipecacuanha have been the remedy which has given most permanent relief; blisters also, and expectorants, are frequently resorted to in the same cases. After the inflammatory symptoms have been subdued, the preparations of steel and stomachic bitters, the best of which is the cinchona, will be found useful in strengthening the constitution, and correcting the laxity of the mucous membrane of the bronchiæ, which is the chief cause of the disease.

It now remains only to give an account of the cutaneous eruptions which are most prevalent among the poor of this district, and the mode of treatment which has been found most successful in removing them.

It is needless to mention that we are indebted almost entirely to the labours of doctors Willan and Bateman for the classification of these diseases, the varieties of which were totally neglect-

ed by their predecessors. Although these eruptions occasionally present themselves in adults, by far the greatest part occur in children, and this is the age which appears to be peculiarly afflicted with eruptive diseases.

The first species which most frequently occurs is, as might be expected, the scabies or psora, on which I think it unnecessary to dwell, its appearances being so well known and its treatment understood by the most ignorant ; however its varieties may be an object of curiosity to the speculative physician, it is manifest they are of no importance to the practical, all being curable by the well known antidote sulphur. Next to psora, the most frequent eruptions which present themselves, are the species of lepra, appearing in large insulated patches on several parts of the body at the same time : I have seen those patches sometimes so large as to cover the greatest part of the thigh and nates. The remedy which I have found most successful in the cure of this disease, is the unguent. nitrat hydrar. dilut, anointed over the affected part every night, together with the electuarium sulphuris, containing equal parts sulphur and cream of tartar, taken internally so as to produce a laxative effect. Those medicines, continued for some time with perseverance, generally succeed in removing the complaint. In the more obstinate cases, a powder composed of near-

ly the same ingredients as the Plummer's pill is, superadded to the above. Porrigo or scald-head is the next eruptive disease, in point of frequency, which occurs, and indeed is very prevalent among the children of the poor. The remedies above-mentioned for lepra, are applicable to this eruption also, and will generally succeed in removing it.

In some cases I have been obliged to have recourse to the tar ointment applied over the scalp and then covered with a hog's bladder, which I have found very effectual in this disease. A species of porrigo (*furfurans*) has lately occurred to me in private practice, in which the hair fell off on particular parts of the scalp, and a dry branny eruption without ulceration took place in those parts. This complaint was very obstinate; after resisting the remedies above-mentioned it was ultimately removed by the cold salt-water bath. In the course of last summer a case of pemphigus gangrænosa occurred in a child of 2 years old which was the only case of pemphigus I have met with in the practice of the dispensary. The appearance it presented was, as if a portion of flesh had been scooped out, with perpendicular sides and the bottom and sides of the ulcer quite black. It was cured by the following remedies—equal parts of the ung. hydr. nitrat. and ung. oxid. zinc. were directed to be spread on scraps of clean

linen and applied to each of the ulcers after being first well washed with warm milk and water—these dressings were changed and the bathing repeated every day. At the same time a scruple of powdered bark was given thrice a day internally, the bowels being previously prepared by pretty smart purging. Under this plan the ulcers began to heal in a few days, and were finally removed in four weeks. Some cases of psoriasis palmaria have lately occurred, which were cured by the ung. hydr. nitrat. externally, and the antimonial powders and calomel internally, as above. A few cases of the purpura simplex and hæmorrhagica had occurred to me in the early part of my attendance at the dispensary, but in the last three or four years I have not met with this disease—the remedy which succeeded in the cure of one very violent case of purpura hæmorrhagica was the infus. cinchon. strongly acidulated with sulphuric acid together with free purging.

LIST OF DISEASES,

From the 1st November, 1816, to 1st November, 1817.

ACUTE DISEASES.	Total.	ACUTE DISEASES.	Total.
Abscessus	6	Hæmatemesis	19
Apoplexia	6	Hæmoptoe	124
Catarrhus	984	Hæmorrhagia Uter.	15
Cholera	103	Hydrocephalus	10
Convulsio	10	Ischuria	5
Colica	184	Mammitis	3
Cynanche Tonsil.	117	Morbilli	68
———— Parotidæa	4	Ophthalmia	130
———— Trachealis	7	Otitis	4
Dysenteria	253	Pemphigus	1
Enteritis	12	Peripneumonia Notha	123
Erysipelas	66	Peritonitis	9
Febris (Synochus)	1543	———— puerper.	3
———— Intermittens	7	Pertussis	10
———— Infantum Remitt.	231	Phrenitis	1
———— Miliaris	6	Pneumonia	214
———— Typhus	267	Rheumatismus Acut.	143
Gastritis	8	Scarlatina	13
Gonorrhœa	2	Variola	16
Hepatitis	31		

CHRONIC DISEASES.	Total.	CHRONIC DISEASES.	Total.
Abortio	29	Blennorrhagia	2
Amaurosis	—	Calculus Vesicæ	1
Amenorrhœa	275	Cardialgia	54
Anasarca	147	Cephalæa	83
Aphthæ	12	Chorea St. Viti	2
Asthénia	82	Diarrhœa	348
Ascites	55	Dolores post partum	8
Asthma	271	Dysphagia	1

CHRONIC DISEASES.	Total.	CHRONIC DISEASES.	Total.
Dyspnœa,	125	Otalgia,	1
Dysenteria Chronica,	70	Palpitatio,	78
Dyspepsia,	379	Paralysis	40
Dysmenorrhœa,	13	Phlegmone,	20
Dysecœa,	12	Podagra,	4
Dysuria,	14	Porrigo Capitis,	19
Eneuresis,	4	Phthisis,	105
Epilepsia,	6	Prurigo Senilis,	1
Gastrodynia,	18	Prolapsus Ani,	10
Hæmorrhœis,	22	——— Uteri,	6
Hemicrania,	1	Psora,	346
Hepatitis Chronica,	51	Psorophthalmia,	18
Hemiplegia,	10	Rheumatismus Chronica	254
Herpes,	74	Scirrhus,	3
Hysteria,	15	Scrophula,	36
Hydrothorax,	15	Syphilis,	20
Hypochondriasis,	4	Spasmi Atonici,	4
Icterus,	22	Syncope,	1
Impetigo,	13	Tabes Mesenterica,	9
Ischias,	36	Tænia lata,	16
Leucorrhœa,	51	Tenesmus,	54
Lepra vulg.	10	Tussis,	1483
Lumbago,	109	Tympanites,	1
Mania,	11	Vermes,	123
Marasmus,	85	Vertigo,	11
Menorrhagia,	50	Venena,	3
Œdema,	109	Vomitus,	24
Obstipatio,	150	Vomica,	1
Odontalgia,	5	Urticaria ch.	3
		Chronic Cases,	5546
		Acute Cases,	4758
		Surgical Cases,	921
		Grand Total,	11, 225

MEDICAL REPORT
OF THE
F E V E R H O S P I T A L,
CORK-STREET, DUBLIN ;
CONTAINING
AN ACCOUNT OF THE PROGRESS
OF THE
PRESENT EPIDEMIC.

By F. BARKER, M. D.

HONORARY FELLOW OF THE KING'S AND QUEEN'S COLLEGE OF PHYSICIANS,
PROFESSOR OF CHEMISTRY IN TRINITY COLLEGE, DUBLIN, AND SENIOR
PHYSICIAN TO THE HOSPITAL.

At the present awful and alarming crisis, when an epidemic fever has prevailed in most parts of Ireland, has reached this great city, and extended to Scotland and England, continuing with a progress so uninterrupted, that no prudent man will venture to predict how long it may continue, or how fatal it may prove ; it is incumbent on every physician who possesses the opportunity of obtaining information, to state his opinion without reserve. In the performance of this duty, I do not pretend to suggest means capable of putting a stop to the progress of fever, but I hope to offer such views as may contribute to mitigate, if not to suppress, this evil. Dogmatism on such occasions is little better than presumption, but silence may also become criminal. With these feelings,

I proceed to give a brief history of the existing epidemic.

Fourteen years have passed over since the fever hospital in Cork-street, was instituted for the cure and prevention of contagious fever. On its first establishment, sanguine hopes were entertained that its system would prove both remedial and preventive, affording relief to the poor, and protection to all classes from the formidable consequences of infection: thus averting a calamity which reduces our population, promotes poverty and mendicity, and interferes in a high degree with the welfare and happiness of the community.

During several years those expectations did not appear to be ill founded; for although contagious fever seemed little, if at all diminished in frequency, the failure of the means, which had been adopted for its suppression, was attributed, not to any original imperfection in them, but to their too limited operation.

Such views appeared reasonable till the year 1810, when a considerable increase of the sufferers from fever took place, and with little fluctuation, continued progressively up to the year 1815, at which time admissions to the hospital became much more numerous than at any former period. It was now evident to those who were most disposed to confide in the efficacy of the preventive measures hitherto adopted, that in whatsoever

degree these might have been beneficial, the causes of fever were still predominant.

As the number of beds in the hospital had become insufficient for the reception of all applicants, and the increase of fever might proceed from this cause, the managers of our institution, with the aid of a parliamentary grant, erected a new building; and it might have been supposed with reason, that the hospital thus enlarged, together with the extensive wards of the House of Industry, would have afforded sufficient accommodation for all such patients, and have served at least to restrain the further progress of disease.—But events were soon to prove unhappily that such means were inadequate to produce this effect; that ordinary preventives of the most approved efficacy, were insufficient: that the removal of the infected from their families, did not destroy infection: that hospital accommodation, increased to an extent almost unprecedented, might equal, or even exceed the demand, and yet fever continue to extend its ravages: and that efforts directed by intelligence and information, aided by wealth and power, in whatsoever degree they might retard, were altogether incapable of stopping the progress of this formidable calamity. The epidemic fever which had prevailed in most parts of Ireland for more than a year past, at length reached this city: hospital accommodation for the sick, when removed from their families,

with other means tending to destroy infection, was liberally supplied ; but the fever has made steady advances, and patients now enter the hospitals at the rate of at least *two thousand monthly*.

The reporter of the medical occurrences of this hospital feels it incumbent on him to enter into a brief review of the circumstances which preceded, as well as attended the invasion of the present epidemic. Records of facts, on similar occasions become valuable : by reference to these, should the same evils visit us at any future period, we shall have it in our power to take advantage of former experience, adopt those means which have proved successful, supply deficiencies, and avoid error.

During the two last years, particularly in the year 1816, the crops had failed, owing to the unusual cold and moisture of the atmosphere. The spring of that year was remarkably late, rain fell on a majority of the days during the months of July, August, September and October, and the heavens were so generally obscured with clouds, that the influence of the sun's rays upon the soil must have been much less than usual, and the mean temperature of the months of spring, summer and autumn, was nearly $3\frac{1}{2}$ degrees below that of the similar preceding period. From a registry of the weather, kept by the reporter, it appears that the medium temperature of Dublin

within the period commencing with February, and ending with October 1815, was 54.32° ; and during the same time in 1816, it was only 50.9° , the difference amounting to 3.42° —In adjoining countries the difference of these seasons was equally remarkable. In the vicinity of London the medium temperature of the above mentioned months in 1815, was 53.9° ; and in 1816, only 49.9° , the difference amounting to 4° . The depth of the rain which fell during the same time at this place, in 1815, amounted to 15.16 inches; and in 1816, to 23.87 inches. We are informed that in France the mean temperature of the nine first months of the year 1816, was two degrees less than that of the same period of 1815;* and during the months of July and August 1816 there fell about three times, and in September about twice as much rain as in the corresponding months of 1815.† This unfavourable state of the atmosphere prevailed in many parts of Europe, and probably exerted its influence over a great part of the northern hemisphere.

* These French degrees converted into those of Farenheit, amount to 3.6° .

† A scale exhibiting a comparative view of the thermometric range, during the months and years above mentioned, in Dublin and London, has been constructed by the reporter from the registry of Mr. Howard in the neighbourhood of London, and from one kept by himself in Dublin, and is annexed to satisfy inquiry on this subject.

The following year also, though in a less degree than 1816, was cold, moist, and unfavourable to the harvest. The consequences were most distressing ; the grain ripened imperfectly, much of it perished altogether, and the portion saved was of a bad kind. The bread made from grain thus imperfectly matured, was often bad tasted, and certainly defective in nutriment. Of this we have sufficient evidence in the projects which were framed and successfully practised, to correct some of the bad qualities of the flour when made into bread. Potatoes also, the chief support of the poor of this country, were small and watery. When the failure of the harvest had become evident, scarcity of provisions commenced, and increasing with the approach of the following summer, arrived at its greatest height about the midsummer of 1817. Bread, for some time previous to and during this period, bore more than twice its usual price ; and potatoes were at least equally dear in Dublin, and in many places were sold at more than three times their average cost. In several parts of Ireland, particularly in the north, the poor were seen gathering wild esculent plants to allay the pains of hunger ; and I have been credibly informed that some unfortunate creatures died of want. In these distressing circumstances, the interference of government and of the richer classes was liberally exerted ; provisions were purchased and sold out to the poor at moderate prices,

and the contributors to the fund for this purpose had the gratification of producing some mitigation of public calamity. But although the exertions of this kind were in many instances great and generous, the miserable consequences of scarcity were in Dublin strongly exemplified. Mendicants in unusual number were to be seen in every quarter ; and many wretched country labourers, sometimes followed by wives and children, their pallid and emaciated countenances testifying the reality of their wants, resorted to the streets of the city in expectation of obtaining employment and escaping from the horrors of want. Although much was done both by public and private exertion to obviate the distress, yet alleviation only could be hoped for or attempted, as the change from war to peace had so lowered the value of land and price of labour, and caused such a stagnation of trade and manufactures, that employment and the means of buying food were as difficult to obtain as food itself.

In these circumstances, fever, which had prevailed epidemically in most parts of Ireland, and in Dublin since 1810, more frequently than in former years,* now increased in places remote from the city to a truly alarming degree ; and reports

* See Reports of the Fever Hospital in Dublin for 1815 and 1816, by Dr. Grattan and Dr. Stoker, and of the Fever Hospitals in Cork and Waterford for 1817, by Dr. Barry and Dr. Bracken.

of its prevalence and fatal consequences continually reached us from various parts of the country, particularly the northern, during a great part of the year 1817. But it deserves remark, that the number of fever patients in Dublin did not at this time seem greater than for some previous years, especially, 1815 ; and that for eight months at least of the year 1817, the epidemic fever did not appear to have reached Dublin, although in its vicinity it had existed for some time previously. According to the best accounts which the reporter could obtain by personal inquiry, it had commenced in the small neighbouring towns, Lucan, Leixlip, Dunboyne and Swords, about the end of July or beginning of August, and many persons, chiefly among the better ranks, became its victims, for in this class of society, the fever has been observed to prove remarkably fatal. It also deserves notice, that during the time when provisions were most scarce, and the sufferings of the poor from this cause, were at the greatest height, fever did not prevail in Dublin more than in some former years ; nor did it make its appearance here until a more abundant harvest and the supplies obtained from abroad had produced a great reduction in the price of the necessaries of life, in that of bread amounting to one-third, and potatoes still more ; so that when the epidemic fever commenced in this city, the price of these articles did not much exceed the usual rate.

In the autumn of last year the additional wards, which the increasing demands of the city had obviously required, and the managers of this establishment so providently added to those already applied to receive fever patients, were, at this very critical period, completed, and by the aid of government fitted out, so as to afford 260 beds for the reception of such applicants.

It is not easy to determine with exactness the time when an epidemic fever commences in a great city so constantly infested by fever as Dublin has been ; more especially when its symptoms do not materially differ from those commonly observed in the disease. The only certain indication of such an event appears to me to be an increased number of patients, and in this view I would date its commencement in Dublin from the middle of last September, 1817 ; for although cases of pe- techial fever had occurred in the early part of that month, and even toward the end of August, still no appearances were observed in the disease so distinctive as to warrant the opinion that a fever of any peculiar nature then existed, and the remarkable increase of patients did not commence till the time above-mentioned. It deserves notice, that the increase in the number of fever patients in the Hospitals of Dublin, Cork, Waterford and Edinburgh, was nearly simultaneous, and took place at the latter part of autumn, as will appear from the annexed table.

Number of patients admitted to the Hospitals in the following months.

1817 Months,	At Cork-st.	Do. at Cork,	Do. at Waterford,	Do. at Edinburgh,
July,	258	224	77	33
August,	276	262	101	39
Septem.	372	265	84	49
October,	387	414	204	53
Novem.	442	425	100	59
Decem.	530	*	122	93

The increased prevalence of fever at the same time in places so distant from each other seems worthy of observation. In the year 1801—1802, when an epidemic fever of great extent prevailed in the south of Ireland, as proved by the admissions to the Waterford Fever Hospital, then newly established, the disease became very frequent in Manchester also, the hospital admissions of

* N. B. The coincidence of the numbers admitted in Cork and Dublin is greater than appears from the annexed scheme, as the numbers in the table of admissions at Cork are given in monthly periods commencing from the 8th of November, 1816, and the admissions have taken place chiefly in the month preceding that to which they are referred. This table terminates with November.

fever patients encreasing there from 454, the average number of five years, to 1000 and upwards.† The epidemic fever which visited Gibraltar in the years 1804, 1810, and 1813, commenced in autumn. These facts shew that of the different seasons, autumn chiefly favours the spreading of epidemic fever, and also that in these countries it prevails in places very distant from each other at the same time.

In what quarter of this city the disease first shewed itself it is difficult to ascertain, as the contagion was probably introduced from external sources, and by the poor, whose lodging houses are situated in many parts of Dublin; but its first appearance caused much alarm, and great exertions were made to meet the coming danger. Differences of opinion as to the existence, nature, and extent of the fever took place on this as on almost every similar occasion on record. Whilst by some persons it was alleged to be neither dangerous nor contagious, by others it was denied to exist altogether. In the mean time the disease made steady progress, and it became expedient to adopt measures unusual in our hospital. The admissions of patients had been hitherto confined to a district bounded by the circular-road, but in consequence of the prevalence

† Ferriar's Med. Histories and Reflections, Edit. 1810.

of fever in the immediate neighbourhood of the city, and the frequent applications from thence as well as from the adjacent villages, the patients being sent in open carriages to the gates of the hospital, it was deemed prudent to admit all such febrile cases, from the apprehension that if refused immediate admission they would enter lodgings, and spread infection through the city. The same views probably operated to induce the managers to receive all persons ill of fever on their *first* application to the hospital, and to dispense with the physician's visit at the patient's dwelling. In fact many of them either entered the city labouring under fever, or were seized with it immediately on their arrival; and instances have occurred of such unfortunate persons compelled to pass the night in the open air or in some miserable entry, the dread of infection overcoming those feelings which among the the lower classes in this country are so peculiarly alive to the claims of the houseless stranger. The speedy admission to the hospital, of applicants so circumstanced was prudent as well as humane, a source of infection being diverted from the city by this mode of prevention. Nor did any disadvantage arise from an admission of patients apparently indiscriminate; the proper symptoms of an attack of fever are so well known among the poor, that mistakes have very seldom occurred; and patients so admitted have been found to be almost exclusively fit subjects for a fever

hospital.—Here I cannot pass over unnoticed the advantages Dublin has derived from the very convenient situation of the Fever Hospital Cork-street, contiguous to a quarter of the city so closely inhabited by the poorer classes, thereby facilitating early information of the first appearance of fever in a family, and hastening the admission of the sick; important objects in any system of prevention. At a crisis like the present, it may be said truly to be of *vital* consequence that hospitals should be contiguous to those parts of a great city where fever is most likely to prevail. The applications for relief are in general too long delayed, often till the fifth, sixth, or a later day of fever. Many sufferers prefer to remain at home with their families, and never apply for relief. The listlessness and langour of poverty, and the weakness of illness, favour delay, or prevent application. I have known patients in the lowest condition of life obliged to pay a messenger for carrying their application to the Fever Hospital in Cork-street, and sufferers have refused to go to a distant hospital, though willing to avail themselves of one in the neighbourhood, if open for their reception. The governors of the House of Industry, stated publicly in the year 1801, “that for such a population, two hospitals in the western, and one in the eastern part of the metropolis, appear to be necessary;” this judicious opinion was given at a time when fever was not by any

means so prevalent, and the wants of the city in no respect so pressing as at present. Yet some parts of Dublin, closely inhabited by the poor, and containing houses which have produced fever patients for months in succession, are from one and a half to two miles distant from the fever hospitals. *

With the increased temperature of the weather, on the approach of summer, fever became more frequent ; but, as usually happens in great epidemics, some fluctuation in the numbers attacked was observed both here and in other parts of Ireland, as well as in Edinburgh. When the weather became hot, the medium height of the thermometer exceeding 50° , the numbers increased rapidly. This augmentation has continued up to the present period.† Whether the frequency of fever has yet arrived at its maximum, and will soon decline, is difficult to determine. The great epidemic fever which prevailed in Dublin in 1741, and commenced in the autumn of 1740, did not terminate till the end of autumn, or beginning of winter in 1742, lasting about two years ;‡ and in most parts

* Whilst this report was going to press, the Clinical Hospital founded by Sir P. Dunn, M. D. in the eastern quarter of the city, was, by order of Government, again opened for the reception of fever patients.

† September 1818.

‡ See Ruttly's History of the Weather, pp. 86 and 96.

of this country, the present epidemic has continued for more than a year: but its duration in the capital, cannot well be estimated from that of smaller towns. However, it is consolatory to remark, that with the increase of the sick, the proportion of deaths to recoveries diminishes, agreeably with former experience in this hospital, and also in the Waterford House of Recovery, as noticed by Dr. Bracken, in a well-written and satisfactory report of that establishment for the year 1817.

It has been remarked, that fever has not prevailed with uniform frequency through different parts of the city. From the reports of an association of physicians in Peter's parish, who undertook the duty of inspection, for the purpose of sending the sick to hospitals, and obviating the concurrent causes of disease during the continuance of the present epidemic, it appeared that in the middle of the winter, fever was most prevalent in that quarter of the parish which is contiguous to the Fever Hospital in Cork-street; but after some time had elapsed, the more remote parts of the parish in the vicinity of Sir Patrick Dunn's Hospital, were chiefly infected, whilst the former became comparatively healthy. This migration of the disease has been observed in Dublin on other less extraordinary occasions, and has occurred du-

ring some great epidemics, as the plague, in other places.

The state of the weather as to moisture, has been said to have affected the progress of this fever in other parts of Ireland. I cannot say that I have observed this in Dublin, although I have kept a registry of the weather during several years past,* but that it becomes more frequent on the approach of summer is well established, and may depend on various causes, the increased heat or dryness, or a change which the human constitution undergoes at this time of the year. That low temperature will not prevent the spreading of fever, when contagion and the exciting causes co-operate, is fully proved by the commencement of an epidemic fever in Altona, which added greatly to the distress of the unfortunate inhabitants of that city, and proved very destructive in the winter of 1813-14, the most severe remembered for many years, when the thermometer in that place fell to 34° below the freezing point, and the temperature did not rise much higher during a considerable time.†

* The plague at Grand Cairo is observed to diminish both in frequency and malignity about the 24th of June, at which time, according to Mr. Bruce, a heavy dew or Nukta falls in that country.—See Russel on the plague, p. 266.

† See Steinheim ueber den typhus, in Jahr 1814 in Altona.

But though epidemic fever may commence in winter, and continue through all the rigours of that season, still the fact seems well established, that the frequency, not only of fever, but also of the plague, increases in the summer and autumnal months. This will become more evident, on comparison of a general table of the monthly admissions to the Fever Hospital in Cork-street, with a table given by Dr. Russel, in his treatise on the plague, p. 276, and with a similar one by Dr. Calvert, in his account of the plague at Malta in the year 1813.* It should be observed, that the progress of the mortality in the plague, corresponds with its frequency so nearly, as to allow the comparison between the tables referred to, and that of fever.†

The latent period of fever, or the time which elapses between the reception of infection by an individual, and the attack of his disease, has been the subject of inquiry with many authors. To

* See Med. Chirurg. Trans. v. 6. p. 64. See also Appendix.

† The increase of febrile diseases during the summer and autumn in ancient times has been recorded by the Roman poet :

—dum ficus prima calorque
Designatorem decorat lictoribus atris :
Dum pueris omnis pater et matercula pallet ;
Officiosaque sedulitas et opella forensis
Adducit febres et testamenta resignat.

ascertain this, during the present epidemic, when contagion is so widely diffused, as to render its first reception a question of uncertainty, is not easy ; but this period in several instances, seemed to amount to some weeks ; and in one within the reporter's recollection, a whole family was attacked, and three or four weeks intervened between the illness of each individual : this occurred most frequently during the commencement of the epidemic, and probably contributed to favour the opinion that it was not contagious. As the epidemic advanced, many persons in a family were attacked about the same time ; in such cases it was not easy to determine, whether the infection originated from a domestic or a foreign source, and to trace its progress, was almost impossible. A man who exercised the trade of a tailor, was admitted to the hospital in the beginning of the present month (September 1818), from whom I had the following account of his illness : that he had lately engaged to work in a house where a blanket had been given him to sit on, which, as he afterwards learned, had been the covering of some of the sick tenants, of whom several had been affected with fever. On this he continued to follow his business, until the fourth day, when he was attacked with fever. If his illness was attributable to infection received from the blanket, the latent period would, in this instance, amount to four days only.

At its commencement the fever appeared much less contagious than in its subsequent progress. At first, it extended through families so slowly and unfrequently, that doubts of its infectious nature were entertained by several intelligent medical gentlemen. In last October minute inquiry was made from ninety patients, then in the Cork-street Fever Hospital, taken without selection, to determine by the previous illness in the families from which they had been removed, or by their previous communication with any person labouring under fever, how far the disease was attributable to contagion; when it appeared, that in twenty-four instances only could infection be discovered; but in the remaining seventy-six it was not found, that such intercourse with fever patients had taken place, as to render it likely that their illness had originated from immediate communication with the sick. This, perhaps, arose from the length of the latent period which at the beginning of the epidemic seemed unusually great. But when some months had elapsed, the rapid extension of the fever through families gave sufficient evidence of its infectious nature. The experience of Dublin agrees in this respect with that of other places. When the epidemic fever appeared at Newcastle towards the end of June 1817, it was at first supposed not to be contagious, because it attacked individuals quite detached, and having no communication apparently with each other;

but the opinion of the medical gentlemen of that town on the mode of its propagation changed during the progress of the epidemic—See Edmonston on fever at Newcastle. *Edinb. Med. and Surgical Journal*, v. 53. pp. 79 and 82. Similar observations have made on the progress of the plague; thus Dr. Russel observes of the plague of Aleppo, which had commenced in the latter part of May, that “before the middle of June it was rare to find more than one person sick in the same family, even in the houses of the meaner class: and the attendants employed immediately about the sick so often escaped the infection, that people were too often led to believe the disease was not the true plague; but in the last fortnight of June, whilst a greater proportion of the sick recovered, the disease became manifestly more contagious.”* The increased quantity and concentration of the contagious effluvia, in this respect resembling other poisons may be the cause of the more rapid diffusion of an epidemic disease in the advanced stages of its progress.

During the prevalence of some epidemic fevers, as of that at Altona, in the year 1814, it was remarked, that at first, children were the principal sufferers, but subsequently, persons of the middle age, and few children were attacked; and

* See Russel on the plague, p. 19.

when the disease was on the decline it again became most frequent among the young.

The annexed tabular statements will show some facts of considerable interest. For the first of these tables I am indebted to Mr. Clarke, register to the hospital, who, at my request, constructed it from the general registry. From this I have formed another, which is also annexed, and serves to render the conclusions deducible from the first table more evident.

Table commencing September 15, 1817, ending May 1, 1818, exhibiting the ages of those admitted in monthly periods.

Date.	Under 10 years.	From 10 to 20. years inclusive.	From 20 to 30 years inclusive.	From 30 to 40 years inclusive.	From 40 to 50 years inclusive.	From 50 years upwards.	Total.
From 15th August to 15th September, }	38	101	126	30	8	16	319
From 15th September to 15th October, }	30	139	97	51	28	10	355
From 15th October, to 15th November, }	30	141	141	59	22	9	402
From 15th November, to 15th December, }	34	176	183	59	32	12	496
From 15th December, to 15th Jan. 1818. }	46	189	170	70	28	13	516
From 15th January, to 15th February, }	42	207	176	74	30	18	548
From 15th February, to 15th March, }	49	185	139	57	45	15	490
From 15th March, to 15th April, }	55	202	150	63	26	17	513
From 15th April, to 15th May, }	37	134	82	45	22	10	331
	362	1474	1265	508	241	120	3970

TABLE

Shewing the proportion which each of the preceding numbers bears to the total sum of admissions in each period, taken as 1000.

Date.	Under 10 years of age.	From 10 to 20 years inclusive	From 20 to 30 years inclusive	From 30 to 40 years inclus	From 40 to 50 years inclusive	From 50 years upwards.
From 15th August to 15th September,	119 in 1000	316 in 1000	394 in 1000	94 in 1000	25 in 1000	50 in 1000
From 15th Septem. to 15th October,	84 do.	414 do.	273 do.	143 do.	78 do.	28 do.
From 15th October to 15th November,	74 do.	350 do.	350 do.	146 do.	54 do.	22 do.
From 15th Novem. to 15th December,	68 do.	354 do.	369 do.	118 do.	64 do.	24 do.
From 15th Decem. to 15th January 1818,	89 do.	366 do.	329 do.	135 do.	53 do.	25 do.
From 15th January to 15th February,	78 do.	377 do.	321 do.	135 do.	54 do.	32 do.
From 15th Feb. to 15th March,	100 do.	377 do.	283 do.	116 do.	91 do.	30 do.
From 15th March to 15th April,	107 do.	393 do.	292 do.	122 do.	50 do.	33 do.
From 15th April to 15th May,	111 do.	404 do.	250 do.	135 do.	66 do.	30 do.
Total,	91 in do.	371 do.	318 do.	127 do.	60 do.	30 do.

On inspection of the last table it will appear, that persons between the ages of ten and twelve years constituted the largest number of the admitted ; and the admissions according to the ages were in the proportion of the following numbers :

371 - 10 to 20 years of age.

318 - 20 to 30 do.

127 - 30 to 40 do.

91 - 0 to 10 do.

60 - 40 to 50 do.

30 - 50 and upwards.

At the beginning of the epidemic, the proportional number of children attacked was greater than during the winter, and again increased towards summer. When the total number of admissions increased, this took place chiefly among young persons. These and other facts will appear on reviewing the preceding tables. In forming our deductions from them, we should avoid the error so frequently committed, of inferring an exact correspondence between the prevalence of disease at different ages in society at large, and in the hospital. For though we knew with exactness, the total number of the sick in society at the different ages, still the proportional number of persons living in society at these ages might be different from that of the sick. In the course of the epidemic, I witnessed the disease in many children under the age of four or five years, and in its most exquisite form, that of petechial fever.

A Statement of admissions, &c. into Cork-street Fever Hospital from 5th Jan. 1817, to 30th April 1818, in periods of ten days.

Admitted.			Died.			Admitted.			Died.		
1817.	Males.	Fem.	Total.	Males.	Fem.	1817.	Males.	Fem.	Total.	Males.	Fem.
Jan. 5											
to 15	29	30	59	5	2	Br. up	1327	1353	2680	104	74
25	32	36	68	5	3	Nov. 11	68	52	120	7	3
Feb. 4	29	34	63	7	1	21	86	64	150	3	4
14	35	22	57	7	2	Dec. 1	91	81	172	3	4
24	32	39	71	2	4	11	79	86	165	5	7
Mar. 6	27	26	53	4	2	21	86	80	166	13	4
16	30	28	58	3	2	31	84	89	173	7	6
26	35	41	76	0	3	1818 to					
Apr. 5	42	55	97	5	3	Jan. 10	92	82	174	9	6
15	39	29	68	2	2	20	72	79	151	5	1
25	38	49	87	1	2	30	93	79	172	5	2
May 5	38	38	76	2	3	Feb. 9	82	84	166	4	2
15	52	61	113	2	7	19	99	96	195	5	3
25	54	41	95	2	1	Mar. 1	89	92	181	2	3
June 4	38	48	86	3	4	11	88	72	160	2	5
14	47	53	100	4	5	21	93	89	182	3	6
24	51	47	98	3	2	31	91	84	175	4	1
July 4	44	54	98	4	5	Apr. 10	80	87	167	3	4
14	26	39	65	1	3	20	95	78	173	3	3
24	46	45	91	3	2	30	88	122	210	2	3
Aug. 3	40	52	92	2	2						
13	47	37	84	6	1		2883	2849	5732	179	141
23	47	68	110	2	1						
Sept. 2	39	26	75	2	1						
12	54	68	122	5	1						
22	64	61	125	4	1						
Oct. 2	68	57	125	4	4						
12	67	48	115	6	1						
22	75	57	132	4	1						
Nov. 1	62	59	121	4	3						
	1327	1353	2680	104	74						

Proportion of
Deaths,—Males 1 in 16—1-9th
Fem. 1 in 20—1-5th

Average of Males
and Females. 1 in 18 nearly.

The preceding tabular view will shew that men were the chief sufferers at the commencement of the epidemic in September and the months immediately following; this was the case with respect both to frequency and mortality.

This table gives the admissions in periods of ten days; and thus we have it in our power to ascertain the average number admitted daily during that time, by separating the last figure, and reading this as a decimal fraction.

As to the condition of life of those attacked, it may be truly said that the fever pervaded all ranks of society; and it is questionable whether at certain periods, particularly the commencement, it did not prevail equally among the rich and poor; and if we take into consideration the relative numbers of those classes in society, this will not appear improbable. Shopkeepers were frequently seized with this fever. This has been attributed, and apparently with good reason, to their exposure to the contagious effluvia proceeding from beggars, who, at the commencement of the epidemic, so crowded their doors, as to prove both annoying and dangerous. Among the good effects likely to arise from the efforts now in progress for the suppression of mendicity, it is not the least, that a productive source of infection will be diminished at the present critical juncture, when

an epidemic, in an extent almost unparalleled in the annals of this country, prevails with increasing frequency in the capital of Ireland.

During the prevalence of great epidemics, the complete extinction of most other diseases has been noticed by many writers. This to a certain degree was observable on the present occasion.— A few cases of small-pox came under the reporter's notice during the early months of spring ; but this or any other disease did not become frequent, the epidemic fever appearing as it were to supersede all other acute diseases. A remarkable instance of this kind occurred to the reporter, during his attendance as clinical physician at Sir Patrick Dunn's Hospital. A female patient was received labouring under small-pox ; she passed through the disease in its regular confluent form, and recovered. In a few days after her dismissal, her sister, who had slept in the same bed with her for some days during the commencement of her illness, was attacked with febrile symptoms, for which she was admitted into the hospital, and as she had never had the small pox the eruption was expected ; but the attack proved to be the epidemic fever, which she passed through under its usual form.

As to the time this fever continued when it seized individuals, no remarkable peculiarity was ob-

served. According to my experience, fevers are more protracted in winter than in summer ; for this reason, with the same influx of patients, their number in hospital must be greater in the former than in the latter season. Convalescence is also less rapid, and patients are more inclined to remain in the hospital in winter than in summer ; this must also contribute to crowd the hospital in winter. In this respect the progress of the epidemic did not differ from that of ordinary fever. It is evident also from these considerations, that the number of beds vacant in hospitals affords no precise information as to the decline or increase of the epidemic.

The causes which served to diffuse this fever, and render it epidemic, may be divided into two classes, *immediate* and *concurrent*.

Its chief *immediate* cause, in my opinion, has been *Contagion*, and to this its origin and diffusion are principally or solely to be attributed. To enter into a disquisition on the laws of contagion would be foreign to the purposes of a report, more especially as this subject has been discussed by Dr. Stokes, professor of natural history in the University, so satisfactorily, as to bring conviction to the minds of all those who read his work with the attention to which it is entitled.* I shall only

* See his " Observations on Contagion."

observe, that several analogies between it and other diseases, confessedly propagated by contagion, would lead us at least to suspect strongly that this fever was contagious. To some of these I have already adverted. Its increase during summer and autumn ; its not appearing at first infectious ; its not extending itself among those who were habitually exposed, and its spreading thro' families more frequently in proportion to the increased number of the sick in society at large, are strong analogies, even omitting those of the symptoms, between this and one of the most contagious of all known diseases, the plague. But as the contagious nature of this epidemic fever has been called in question, and the most pernicious consequences may arise, I shall adduce a few examples of its spreading through families, the only proof of its contagious nature at present admissible. Such facts will also shew, that many of the evils existing previous to the establishment of fever hospitals, have been lately revived, and that fever gets possession of houses which it does not abandon for months, and literally reduces the wretched inmates to a state of beggary.

In a house contiguous to Fitzwilliam-square, in Pembroke-lane, Leeson-place, at an early period of the epidemic, fever commenced in a family of the name of Nowlan, all inhabitants of the same room. A woman and three of her children were

attacked in succession : for many weeks the husband resisted this exposure to infection, but at length he also was attacked. Of these, the majority remained at home during their illness, and refused to accept hospital relief.—In the same house, in a room opposite to that inhabited by the Nowlans, in a family of the name of Skelly, four persons were attacked with fever, and one of them died ; of this family none had applied to an hospital, or received this relief.

In another room in the same house, nine individuals of the name of Byrne have been attacked, not one of this family having escaped ; they all remained at home during their illness. In this house eighteen persons were attacked in the course of a few months, and at present two persons from these families are in the hospital, suffering under fever ; and although but one death resulted from their sickness, yet its consequences have proved most afflicting, as the sufferers have been so miserably impoverished as to have become objects of the association for the suppression of mendicity.

A house at the rere of No. 8, New-street, containing four miserable rooms, has for four months past been the receptacle of febrile contagion ; it contained twenty-three inhabitants ; of these every individual had been attacked by fever previous to the latter part of March, and some who have since become tenants of these

fever beds, as they may be justly named, have suffered equally with their fellow lodgers. This fact exemplifies the difficulty of purifying a house from contagion : for the walls of this house were whitewashed, as I believe, more than once ; several of the sufferers were also removed to hospitals, the straw burned, and fresh straw provided. But as, until the opening of the cleansing-house in Peter's parish, the bedding and wearing apparel underwent no purification, these, of course, retained the contagious effluvia, communicating their pernicious effects to all persons who were so unfortunate as to come within the sphere of their influence. The concentration of such effluvia, must have been great in rooms containing from eight to ten lodgers, in horizontal dimensions about eight feet square, and in height about eight feet.

Infirmary yard in Francis-street, has afforded many examples of suffering from fever. I have been credibly informed, that twenty-five persons have been attacked with fever in that place since the commencement of the epidemic.

As it might be objected to the supposed contagious origin, and diffusion of fever, in the instances here given, that the sufferers were in the lowest class of society, in extreme poverty, and for this reason that the disease should be attributed more to want of food and other privations than to

contagion ; I shall adduce another example of the spreading of fever among persons whose circumstances, as to clothing, food and lodging, were comfortable. A Commissariat barrack, which I have frequently visited, contained about 120 persons, in every respect well provided. At the beginning of the epidemic, a woman of the name of Waters, was attacked with petechial fever. She was immediately removed to the fever hospital in Cork-street, and means employed to destroy the infection. Some weeks elapsed before the consequences of her illness appeared among her associates, but at length, one of her children sickened with a fever similar in form to that under which she had suffered, and in the course of three months, four of the remaining children of her family were attacked. Now it should be observed, that the first sufferers, in this instance, were those who, from their connexion with Waters, had been most exposed to the contagion. In the course of the winter, eight persons more, chiefly women and children, were attacked, and these had slept contiguous to the part of the barrack-room which had been occupied by Waters and her family. Of these fourteen fever patients, one only died. It is but justice to remark, that had it not been for the prompt and judicious exertions of those gentlemen, who had the command of the barrack, the fever would have spread more extensively, and in its consequences have proved more fatal.

These are a few instances of the spreading of fever through families, and many pages might be filled with similar details. Inquiry was made among 87 patients who lately came under my care, and it appears, that in two thirds of these cases, one or more members of each of their families had been previously ill in the house from which they had been removed.

On the effects of such a fever prevailing epidemically, it is almost needless to dwell. The loss arising to society from the interruption given to productive labour ; the expense incurred by providing for the sick ; the debility and weakness of constitution induced by the disease ; the mortality which must attend it, and is most frequent where it is most injurious, namely, among men advanced in life, who are often the heads and support of families ; the increase of poverty and mendicity, together with the agonizing mental distress to which it must give rise, are consequences of this epidemic that must occur to every humane and reflecting mind.

It might be supposed, that a disease so manifestly contagious, would have infected the medical attendants, and other persons connected with great hospitals. But at the fever hospital, in Cork-street, instances of this kind have not been more frequent than usual. It should be observed, that most of its medical attendants have, on

some former occasion, laboured under fever,* and to this cause, probably may be attributed, their exemption during the present epidemic. Their being habituated to the contagion, has no doubt, also contributed to their immunity, together with their being engaged in an employment, requiring unusual exertion, both mental and bodily. One of the physicians only has had a severe attack during this epidemic, and two others have a slight febrile indisposition. It has been observed, even in the plague, that the inactive, desponding and timorous, most frequently become sufferers, and many instances have been related to the reporter of persons under great apprehensions from this fever, who have been seized by it, and some of them carried off. Among the nurse tenders and servants at Cork-street, 13 have been attacked in the interval, between September and May, but without any fatal occurrence. The total number of nurse-tenders and servants at the hospital is forty seven. The medical attendants of hospitals have in other situations during this epidemic, caught the infection, and in some of these cases the disease proved fatal. Four instances of this kind, one of which the writer witnessed, occur to his recollection at present, in three of these, the disease terminated fatally.

The escape of medical and other attendants,

* See Medical Report of the Fever Hospital, by Dr. O'Brien.

during this epidemic, does not by any means establish the non-existence of febrile contagion, for the same exemption is observed in epidemic diseases, universally allowed to be contagious. Thus in the plague which prevailed at Dantzic, in the year 1709, and carried off more than 24,000 persons, no physician or apothecary died, and only two surgeons. See account of the plague in Dantzic, by Dr. Gottwald, *Phil. Trans.* v. 28. p. 101. When the plague raged at Malta, in the year 1813, in many instances, whole families escaped, after one or two individuals had been removed, labouring under severe symptoms of the disease, children from their mothers, husbands from their wives ; yet these families had used no precautions, not so much as to common cleanliness. See account of the plague, by Dr. Brooke Faulkner, *Edinburgh Medical and Surgical Journal*, v. 10. p. 140. The escape of Mr. West and his party, as related by Dr. Stokes, in his observations on contagion already quoted, is a singular example of the same kind. It follows therefore, that the occasional escape of individuals, under circumstances of continual exposure, is observed in diseases which are universally allowed to be contagious, and cannot be employed as an argument for the non-existence of febrile contagion. Inoculators of the small pox, record the occurrence of cases which resisted repeated inoculation, yet surely it could not be inferred from such facts, that the small pox was not propagated by contagion.

That peculiarity of constitution, or whatsoever cause it may be, that confers the power of resisting contagious influence, was remarkably exemplified in our hospital, in the case of a child, of the name of Flood. Its mother had been admitted into the hospital, suffering under petechial fever, in its worst form, the child had been suckled by her during a great part of her illness, but never took the disease.*

In this, as in most similar epidemics, it has been observed, that the sickness did not frequently extend through the families of persons in the better ranks of life. To this rule, some exceptions occurred; a remarkable one is mentioned by Dr. Mills, in his cases of fever lately published, p. 32, and the writer has heard a well-attested instance of ten persons in twelve, in an opulent family successively attacked. In several instances, however, he has seen in a family, in the better ranks of life, a case of fever of the worst kind, which never extended beyond the first sufferer. This must be attributed to superior cleanliness and ventilation, larger apartments, and the means of separating the sick from the healthy; for the susceptibility of fever appears to be equally great in every class of society; pawnbrokers have been observed to suffer, during the continuance of epi-

* On this subject, See Observations on Contagion, by Dr. W. Stokes.

demics ; instances of this kind have come to the writer's knowledge. The activity of contagion when communicated by means of infected clothes, is well established. It has been asserted in the public papers, that old clothes are imported into this country in large quantities ; this, at such a time as the present, is a great evil, and requires the interference of those who have the power to redress it.

Among the *concurrent causes* of this epidemic, I would place first, the miserable condition of the lower classes at this period.—In the privations arising from the failure of the crops over the greater part of Europe, Ireland largely participated ; at the same time, great numbers of the poor, who in this country, are too generally destitute of the advantages to be derived from industry, were thrown out of all employment ; the consequences were want, and many of the evils which follow in her train.

That a connection exists between famine and pestilential diseases, is universally acknowledged, and that epidemic fever is an attendant on scarcity, will be allowed by those who will take the trouble of inquiring into the history of such epidemics. An epidemic fever prevailed both in Ireland, and in England, during the years 1740 and 1741. Doctor Huxham, in his work, *de aere et*

morbis epidemicis, mentions the years 1739 & 1740, as years of scarcity, arising from continued rain, and cold seasons, and adds, “*jam maximè fuit febris pestilentialis, plurimosque demittit ad umbras, fumera certè nunc sexies excedunt solitum numerum.*” This epidemic according to his account, continued to the autumn of 1741. See Huxham, V. 2. p. 28. and p. 39. He lived at Plymouth, and reports his observations on that quarter of England chiefly. Dr. Ratty, who was a practising physician in Dublin, informs us that “in autumn 1740, there was “a great dearth of provisions in Ireland, which “proceeded almost to a famine in winter, the potatoes having failed, whilst other provisions bore “double or treble their usual price. In autumn also appeared an epidemic continued fever which “did not wholly cease in winter.”—See Ratty on the weather and diseases of Dublin, p. 83. In his account of the following year he says, “fever “was common to this city, to Cork, Bristol and “London, and often eluded the skill of the physicians. It raged through the provinces of “Munster, Leinster, and Ulster, but was most “fatal to the first, where the poor were worse “provided for, from whom the disease spread to “the richer sort, and it was computed that one- “fifth part of the inhabitants died, though probably with exaggeration: the mortality increased with the advancing season, and with us in “Dublin arrived at its height about the end of

“ August, for on the 28th of that month, the article of fevers in our weekly bills amounted to thirty above double their late usual number.”—Rutty, p. 86. This writer also mentions, that in the family of the celebrated Dr. Berkley, Bishop of Cloyne, 25 persons had been attacked with fever, p. 93. It was computed that 80,000 persons died in Ireland of fever, dysentery and famine, in the years 1740, 1741.—Ib. p. 91.

In the years 1800 and 1801 also a scarcity prevailed, and was attended by an epidemic fever of such extent in the south of Ireland, that the writer recollects to have seen unfortunate patients in fever lying by the road sides, and the fever hospital, then newly established in Waterford was insufficient for the accommodation of all applicants. According to the report of Dr. Bracken, already quoted, the years 1801 and 1817 resembled each other in the prevalence of epidemic fever. The fever which raged in Altona in the year 1814, was also preceded by famine. The author* who describes it informs us that provisions were extremely dear or were scarcely obtainable. The bread of bad quality and adulterated often with sand.—“ Hunger was every where depicted in the hollow eyes of the once happy inhabitants of this town, and in many instances, he who but a short time previously had enjoyed the comforts of a

* Steinheim.

“ well supplied table, now became a beggar for a morsel of miserable black bread.” The evil to be apprehended from such a state of things soon followed ; a malignant fever broke out among the inhabitants.* It is needless to multiply proofs that famine furthurs the progress of fever, as the fact is sufficiently well established ; but why this disease should spread epidemically in consequence of scarcity, may deserve attention. That famine has no direct influence in producing epidemic fever ; that these evils are not necessarily connected as cause and effect, can scarcely be denied ; many instances might be adduced, where famine had been suffered in an extreme degree without giving rise to infectious fever ; the inhabitants of towns sustaining a siege, the crews of ships whose provisions had failed, might afford abundant proof of this assertion. Famine must therefore operate *indirectly*, and as a concurrent cause only, by promoting the spreading of the contagion and rendering the human system more liable to receive it. By increasing their poverty, it obliges the poor to crowd within narrow limits in small lodgings, and by bringing a number of persons within the infected circle, it augments the risks of infection, and diffuses contagion. Personal cleanliness and ventilation in such circumstances are either neglected or become impracticable. Famine disposes the human

* Steinheim uber den Typhus, p. 18.

system to receive infection by producing debility both of mind and body. Its effects of crowding the inhabitants have been witnessed but too frequently by the physicians to the fever hospital, who have often found from eight to twelve persons occupying a room not exceeding from eight to ten feet square : and this most frequently in places where little or no rent is paid for lodging. In such cases, the most miserable hovels unfit, even for the lower animals, become the abode of human beings ; and of this, examples might be adduced in the vicinity of some of the most splendid parts of Dublin, inhabited by the most opulent of its citizens. As to neglect of personal cleanliness, this is a necessary consequence of poverty, aggravated by famine, changes of clothes, vessels for washing ; even soap and hot water, are conveniences of which the poorer classes are totally destitute. These wants must have been greatly extended during the scarcity. I am not acquainted with any plan more likely to diminish the prevalence of contagious fever than a public wash-house for the poor, and therefore I have learned with much satisfaction, that the managers of the Fever Hospital have projected a plan of this kind connected with their institution ; for I believe that every measure, hitherto devised,

will be found insufficient to check completely the progress of fever, so long as the neglect of cleanliness, now so remarkable, prevails among the poor. The introduction of body linen into England, which was not in common use till the eighteenth century, is supposed to have contributed toward the prevention of epidemic diseases: although linen is generally worn in this country, yet too many derive little advantage from it. It is the opinion of many physicans, that contagion is more active when proceeding from clothes, than from the human body: in how great a degree must the activity of this poison be increased, when it is thus collected and concentrated in apparel worn night and day, for a great length of time without change or washing. As to cleanliness in the dwellings of the poor, I shall only observe, that where many families occupy the same house, sometimes the same room, the feeling of a common interest on this subject, can scarcely be expected from them, borne down, as they are, by the pressure of other more immediate wants—imperfect ventilation of their dwellings, which is in many instances obvious, must also contribute to diffuse fever. I have often observed the back windows of houses, where fever prevailed, closed up, to avoid the window tax, as I was informed by the inhabitants. In vain was it represented that they would be indulged with exemption from the tax, by making application to the commis-

sioners of the revenue : it was evident, as they alledged, they could not afford the expense of a new window sash. Many of the poor live in close lanes and alleys, where ventilation is imperfect, and it is with regret I observe the practice now gaining ground, of building ranges of houses in the form of a court, which must interfere with ventilation, more particularly where such tenements, as too frequently is the case, have no back windows. The air thus confined must be injurious to the health, and contribute to extend infection. Dr. Ferriar, of Manchester, has proposed that lodging houses should be built for the poor, and if it were possible to place them under certain regulations, tending to insure cleanliness, ventilation, and to prevent the crowding of apartments ; the adoption of the plan in Dublin would add greatly to the health of the city.

Poverty, aggravated by famine, encreases the susceptibility of fever, by causing despondency ; persons reduced in their circumstances have been frequently observed to suffer from fever. With these effects of the scarcity we should class, as a powerful cause for the spreading of fever, the increase of mendicants, who coming from lodging houses, and beds, the perpetual receptacles of contagion, in filthy and infected apparel, must have contributed greatly to this evil. In most places visited by contagious epidemics, this has

become a subject of particular attention. Beggars have generally been forbidden to go about in places visited by the plague as at Malta, in 1813—at Altona, in 1814, they were supposed to have contributed greatly to the extension of fever—instances of this kind are adduced in the work already quoted.* But in what degree precisely mendicity has given rise to fever, cannot be determined, although its effects must have been considerable : but the converse of this proposition, namely, the increase of mendicity, in consequence of fever, has been much more evident, as the heads of families, advanced in life, have been very frequently its victims. Thus fever and mendicity, like many other evils, are reciprocally productive, and the suppression of either must tend to that of both.

Among the concurrent causes of this fever, the failure of fuel, in consequence of the preceding wet seasons, also deserves notice. Turf or peat is the chief fuel of the labouring classes in the country parts of Ireland, and in those wet years was remarkably scarce and bad : hence must have arisen the crowding of apartments in order to obtain warmth, and diminished ventilation, since a fire in the flue must constantly renew the air, and with these consequences of the want of fuel must

* Steinheim,

have been combined an increased difficulty of cleansing either wearing apparel or dwellings. So great was the scarcity of fuel, that in some parts of the country, twenty miles distant from Dublin, coals were cheaper than turf, though the price of the former was considerably enhanced by land carriage for several miles ; and some benevolent gentlemen, in the country, drew the coals from the nearest sea port, to supply the pressing wants of the poor, which the failure of fuel had occasioned.

Such are the chief concurrent causes of this epidemic. That other causes of a more obscure nature operate to diffuse fever, can scarcely be doubted, when we bring to mind that contagion is constantly present in Dublin, and its propagation favoured by many or most of such concurrent causes, without rendering fever epidemic, at least in the same degree. It is not improbable that the human constitution may undergo changes, which favour the spreading of disease, as frequently noticed in the small pox previous to the introduction of vaccination.

As the causes of this fever did not differ materially, except in degree, from those which are in continual action in the city, so the symptoms did not afford any great deviation from the usual course.—Cases, however, presenting a discordan-

cy in their symptoms were more frequent than usual, constituting the *fièvre ataxique* of French authors. For example; the pulse either much slower or more frequent than is usually observed in fever, and this at an early period of the disease not indicated by other symptoms. The sensorium greatly affected, without great deviation from the appearances of health in other respects; the body covered with petechiæ, other symptoms mild, and vice versa; the heat of the skin almost natural, whilst other febrile symptoms were present in a high degree; and the tongue clean and moist during a very severe illness; irregular cases of this kind were most common at the commencement of the epidemic, and often terminated fatally. They were also most numerous among male patients, and persons accustomed to better living than the lower classes generally enjoy in this country.—With the more frequent occurrence than usual of irregularity in the symptoms of fever, the frequency of petechial eruptions was also remarkable; these were exemplified in persons of all ages, and that peculiar form of petechiæ in which the eruption resembles the measles, occurred much oftener than heretofore. This efflorescence more frequently than any other kind of petechiæ is attended by symptoms of danger, more particularly when it is dark coloured; it is by no means an appearance of recent date. I have occasionally witnessed it since the com-

mencement of my practice ; the mention of it occurs in many of the older writers, both on plague and fever. Thus Doctor Gottwald in his account of the plague of Dantzic in 1713, describes a petechial eruption resembling the measles, and spreading over the body, see *Phil. Trans.* for 1713, art. 10, p. 101.—Sydenham in his essay on the rise of a new fever, describes this eruption distinctly : he says, “and sometimes such spots as are termed miliary eruptions come out all over the surface of the body, appearing much like the measles, only they are redder, and when they go off do not leave branny scales behind them, as in that disease.*

Doctor Rogers in an account of an endemial epidemic, which prevailed in Cork in the year 1731, also describes this eruption,† and gives the history of a case terminating fatally in which it had appeared ‡.

Doctor Huxham in his history of putrid malignant fevers published in 1764, says, “he frequently met with an efflorescence also like the measles in malignant fevers, but of a more dull and livid hue, in which the skin, especially on the breast, appears as it were marbled and variegated :

* See Swan's Sydenham, Edit. 1749. p. 497.

† See Rogers on Epidemic Diseases, p. 7.

‡ Ibid. p. 74.

this in general is an ill symptom".* It must be evident from these quotations that the eruption above mentioned is neither peculiar to the present epidemic, nor to very modern times.—From comparison of many cases in which it occurred at the commencement of the epidemic, I would infer that it generally makes its appearance between the 5th and 7th days inclusive of the fever; it is accompanied uniformly by suffusion of the eyes, the conjunctiva being affected in a manner similar to that of the surface of the body, as happens in measles and scarlatina; it presents itself with very different degrees of distinctness, sometimes so faintly as to be scarcely discernible except on close inspection, on such occasions the suffusion of the eyes is a pretty certain indication of its presence. It is generally attended by stupor or delirium in various degrees; in some cases during this epidemic it was so much elevated as to be distinctly felt on passing the finger over the surface. The probable event of the case cannot be inferred from this eruption. I have seen it begin to disappear when the severe symptoms increased, though its fading is I believe generally an attendant on convalescence; from the mere appearance of the eruption it would be sometimes difficult to distinguish between it and the measles, but its not occupying the face in the same degree as the

* Huxham on Fevers, p. 97.

measles particularly at its commencement, the history of the mode of its attack, and the concomitant symptoms sufficiently distinguish these eruptions. It does not disappear on pressure. When the eruption appeared in this form resembling measles in a patient of the better class of society, the disease was generally dangerous; the same remark has been made in other places.* I have for some time entertained the opinion, that sufferers from fever attended with this eruption, if they are not altogether secured by it from a second attack, are not at least so liable to it as those who have had a fever of the ordinary kind. Though I have frequently made the inquiry, I have not found a patient in whom this symptom was distinct, who had suffered from the same fever on any former occasion. Analogy between this and other fevers, more especially that which appeared at Gibraltar, together with its resemblance to some exanthematous diseases, lend support to the opinion of its rarely occurring more than once in life. But whatsoever may be the result of more minute inquiry, it may be asserted that the chances of the recurrence of fever, diminish in proportion to the continuance and severity of the first attack. The same observation has been made with respect to the plague: thus Russel observes, that although the

* It was observed at Altona, that in every case among the better ranks originating from infection, petechiæ occurred, and patients of this description sunk more rapidly than others.

plague may be taken twice by the same person, yet an attack of the disease is supposed to confer a certain degree of future security, particularly during the same epidemic.*

Another peculiarity in this epidemic at its commencement chiefly, and during the winter season, was the occurrence of a livid or purple colour of the extremities, sometimes of the feet only, but generally of the hands also, not accompanied by coldness of these parts. It was mostly attended by great disturbance of the sensorial functions. It was a formidable, though not a mortal symptom, as formerly observed to be ; on the contrary, several patients recovered, whose hands and feet had been purple during a great part of their illness. This symptom was observed in severe cases only, which constituted a small proportion of the whole number of patients.†

Within the last four years, mortification of the feet, at all times a rare occurrence, has however taken place in a few instances ; but in this epi-

* See Russel on the plague, p. 195.

† This symptom was very common among the soldiers, attacked with fever in our armies in Spain during the winter of 1812, as noticed by Sir James Macgrigor, in his Medical history of the disease of the army, and leads to the true origin of this epidemic, as will be noticed in the sequel.

demic, no case of the kind came under my observation, and mortification over the os sacrum, hips, or other parts of this body, was by no means so common as heretofore ; this purple appearance of the extremities, has been observed as a frequent symptom in the fever, which prevailed in different parts of the continent, at the close of the last war. The increased determination to the brain, indicated by head-ach and delirium, was remarkable during the commencement of the epidemic. Local inflammations in external parts of the head were also frequent. Thus inflammation of the eye, or behind the ear, or within its cavity, were not unfrequently noticed ; but no example of swelling of the parotid gland occurred to my observation. In one case of fever which extended through a family, the attack commenced with a pain in the right eye. In a few cases, the disease terminated in mania, from which the patient in general recovered slowly. Examples of this kind occurred during last January ; such affections are uncommon at this season, but frequently take place during the summer : in one instance, a state of fatuity continued for a considerable time after the cessation of fever. — Bleeding from the nose was observed occasionally, and often brought relief to the symptoms, particularly to the head-ach, and this happened when the quantity of blood thus discharged was very inconsiderable ; no other hæmorrhage, so far as I have

observed, was frequent. The injury which the brain had sustained was indicated, even during convalescence, many patients complaining at this period of vertigo : pectoral complaints were observed in a very small proportion of the cases that came under my inspection, and were uncommon through the greater part of the epidemic. In several instances, during the early part of the summer, the skin, and tunica albuginea of the eye, assumed a yellow tinge ; this by no means indicated a severe disease, nor did the mortality among such patients, appear to exceed the usual proportion. Diarrhæa was not uncommon about the same period, but generally yielded to the usual treatment, it is now more frequent, and in a few instances in this hospital, its symptoms approach to those of dysentery, which we are informed, is very prevalent in some parts of the country.

In a few cases, retention of urine occurred, and it deserves remark, that this symptom was not so formidable as it generally is in fever. In such cases, the catheter was employed, and the event of the illness was often favourable : I have not happened to witness any case of suppression of the excretion now mentioned, though as I have been informed, it occurred frequently among the better ranks, and indicated great danger. Relapses often took place in some instances more than once, and I have known a house to produce

fever during several months, in consequence of the continued relapses of its inhabitants.

On this, as in some former occasions, I have remarked the tendency to relapse, to be in some proportion to the shortness of the first attack ; and as fever is generally of longer duration in winter than in summer, relapses appeared to be more frequent during the latter than the former season.

In consequence of the unusual pressure of business at the hospital, the days on which fever began to decline, have not been noted with the same exactness as formerly ; and I regret it is not in my power to give accurate information on this head. I shall only observe, that among the better ranks, where I had an opportunity of making the observation, the progress of the symptoms was not regular, and the fever did not begin to decline on any fixed day in preference to another. As the summer advanced, cases of fever, continuing but for five days, were more frequent than usual ; and I recollect to have made the same observation, during the great epidemic which visited the south of Ireland in the year 1801. Relapses from this kind of fever have on both occasions been very frequent.

In a judicious and well drawn up report on the

Waterford House of Recovery, for the year 1817, by Dr. Bracken, it is observed in reference to a report of the Cork-street hospital, published in 1807, that it appears to the reporter, “ that crisis “ generally occurred earlier than the day of convalescence ; but whenever it was decided and “ well marked, the patient was marked convalescent.” Now, as it appears to me that the method of forming these deductions, has been supposed to be less accurate than it really was, I shall explain the mode of keeping the cases, and ascertaining the first decline of symptoms. This can be done most satisfactorily, by giving one of the tabular formulæ, in which the results of each day’s observation on a patient, were regularly arranged, and classed under their proper heads.

Name and Age.	Day of Attack.	Cause.	Mode of Attack.	Habit of Body.					Mode of Life.							
Mary-18.	July 1, 1807,	Cold.	Rigors, head-ach, general pains.	Full.					A Servant.							
Date.	Sleep.	Previous symptoms	Complaints.	Local affections.	Face.	P.	Skin.	Resp.	Th.	T.	App.	B.	Th.	Cat.	Strength.	Remedies.
July 12, 1807.	Bad,	Pain of side, cough,	Pain of side.	Petechiæ on chest and arms, eyes suffused,	Flushed.	120	Soft and hot.	32	Great.	Brown.	0	3	Great.	Reg.	$\frac{1}{2}$	Vesicat lateri H. purgans Mist. mucil. urgente tussi.
13th,	Bad.	Pain less,	less pain and c.	As yesterday,	As yesterday.	120	cooler.	30		As yesterday.	0	4 large	Less,			Mist. mucil. ut heri.
14th,	Some,	Pain gone		Petechiæ paler,	More natural	103	cooler.	26	Less	clean at edges.	$\frac{1}{4}$	3				
15th,	Good,		0	Petechiæ almost gone,	Improved.	100		22		Cleaner.	$\frac{1}{2}$	2				Middle diet.
16th,	Natural,		0	Petechiæ gone,	Almost natural	90		20		Clean,						Middle diet.

According to this form the reports on each patient were registered daily under their proper heads, and the case, when terminated, gave a distinct view of the whole progress of the symptoms, and enabled the reporter to ascertain with exactness, the first appearance of recovery. Thus in the example given, it will be evident on inspection, that the first appearance of recovery took place on the 14th of July, the 14th day of fever. From such documents the table of critical days, as given in the first and second reports of this institution was constructed, and the results were consequently deduced, not from mere opinion hastily formed, but from an induction of facts carefully observed and registered in some hundred instances.* I am not disposed to insist much on the doctrine of critical days, as in many cases no distinct crisis is discoverable, but I firmly believe that many febrile diseases have a disposition to terminate on certain days, dating from their commencement, and if observed accurately, the regularity will prove to be much greater than on a hasty view might appear probable ; and in this case an advantage will result from the inquiry, that we

* It is but just to state that in this registry of daily reports, I was much assisted by my friend, and at that time colleague, Doctor Gamble, who undertook, in conjunction with me, to keep registered reports of his cases, and persevered in this laborious and useful occupation for some years.

shall be assisted in distinguishing between the effects of remedies and the natural course of disease. It should be mentioned that fever terminates on a certain fixed day, much more frequently at one time than at another; and the termination seems to be more irregular in winter than in summer.

The progress of this fever through the different seasons has not appeared to me to differ materially from that of former years; I have, therefore little to add to the observations contained in preceding reports.

Happily for the inhabitants of this great city, the mortality has not kept pace with the frequency of this fever. If we take a portion of time, antecedent to the commencement of the epidemic, and beginning from this, divide the whole time up to April 30th into periods containing each one hundred days, we shall have the following rate of mortality :

Dates,	Admitted Males.	Died Males.	Averaging nearly.
1817.			
From Jan. 5 to April 15.	330	40	120 in 1000
— April 15 to July 24.	434	25	57 in 1000
— July 24 to Nov. 1.	563	39	69 in 1000
1818.			
— Nov. 1 to Feb. 19.	833	51	61 in 1000
— Feb. 19 to April 30.	723	24	33 in 1000
	<hr/>	<hr/>	<hr/>
Total	2883	179	62 in 1000*

* It should be observed, that the total mortality in the Dub-

EPIDEMIC FEVER OF 1817-18, 569

Dates.	Admitted Females.	Died Females,	Averaging nearly.
1817.			
From Jan. 5 to April 15.	340	24	73 in 1000
— April 15 to July 24.	475	34	71 in 1000
— July 24 to Nov. 1.	538	16	29 in 1000
1818.			
— Nov. 1 to Feb. 9.	776	39	50 in 1000
— Feb. 9 to April 30.	720	28	38 in 1000
	<hr/>	<hr/>	<hr/>
Total	2849	141	49 in 1000

It appears from the preceding table, that the disease proved more fatal to the males than females, particularly at the commencement of the epidemic, which is included in the period between July 24th and November 1st, and in the proportion of 69 to 29.* Men are generally more liable than women to suffer from the effects of fever. Their habits of life, their liberal indulgence in the use of spirituous liquors and animal food,

in hospitals was greater than is here indicated, as the more severe cases must have given a preference to other hospitals, to which admission was more speedily obtainable than at Cork-street; this and other causes quite independent of the medical treatment, must have contributed to increase the mortality in these institutions. See Report by Dr. Cheyne.

* The number of patients has increased greatly with the advance of summer, and the proportional mortality has at the same time much diminished. In 1000 cases admitted in the period immediately preceding the 19th of last June, the number of deaths was to that of the dismissed cured as 1 to 41 nearly. See Appendix.

may render them more susceptible than women, of that species of fever which frequently has a fatal termination ; but in the progress of the epidemic this mortality diminished more in proportion among the males than the females. It appears to me a very general law with respect to this consequence of fever in Ireland, that the numbers carried off by the disease do not increase with its frequency ; on the contrary, the mortality generally diminishes, as the fever becomes more prevalent. This assertion, except with respect to the males, who suffered in a large proportion at the commencement of the epidemic, is exemplified in the following tabular view of the mortality by fever during different years since the opening of the hospital in Cork-street.

Tabular view of the Mortality in the Fever Hospital in Cork-street since its opening, in two periods.

Years.	Admitted.	Died.	Average.	Average No in 1000 nearly.
1814 from May 14	415	29	1 in $14\frac{9}{29}$	69 in 1000
1805	1024	67	1 in $15\frac{12}{67}$	65 in do.
1806	1264	103	1 in $12\frac{13}{103}$	81 in do.
1807	1100	92	1 in $11\frac{83}{92}$	83 in do.
1808	1071	94	1 in $11\frac{37}{94}$	83 in do.
1809	1051	83	1 in $12\frac{55}{83}$	78 in do.
1810	1774	154	1 in $11\frac{40}{77}$	86 in do.
1811	1471	115	1 in $12\frac{1}{115}$	79 in do.
Total of 1st period	9170	737	1 in $12\frac{26}{737}$	80 in do.
1812	2265	166	1 in $13\frac{107}{166}$	73 in 1000
1813	2627	164	1 in $16\frac{3}{164}$	62 in do.
1814	2392	143	1 in $16\frac{44}{143}$	59 in do.
1815	3780	187	1 in $20\frac{0}{187}$	49 in do.
1816	2763	173	1 in $15\frac{68}{173}$	62 in do.
1817	3682	231	1 in $15\frac{17}{231}$	62 in do.
1818 to Oct. 1	5403	168	1 in $32\frac{27}{168}$	31 in do.
Total of 2d period	22912	1232	1 in $18\frac{36}{1232}$	53 in do.

Thus it appears, that in the first seven years subsequent to the opening of the Fever Hospital, the mortality amounted to 1 in 12 or 80 in 1000 nearly, and during the last seven years it has scarcely amounted to one to 1 in 18 or 53 in 1000, but such has been the increase of fever in Dublin, that although the *proportional* number of persons dying in the hospitals has diminished considerably, the actual mortality of this, compared with former years, has greatly increased.*

Very few children became its victims. Among the numerous cases of children which came under my care, I recollect but one which terminated fatally, and this happened from the supervention of another disease ; accordingly as the condition of those attacked approached that of the better ranks, their disease proved more dangerous. In a brewery in this city remarkable for the superior comforts of all those connected with it, twelve of the draymen were attacked with fever at an early period of the epidemic, and of this number four died—many instances of the same

* In the years 1813, 1814, 1815, about 1 in 18 died of fever in the Cork-street hospital, and the average number admitted annually to the different hospitals in Dublin exceeded 5000, therefore the average number dying annually of fever must have amounted to about 280 in these years, but within the last twelve months in the different fever hospitals, 1000 have become its victims,

might be given. It is impossible to exemplify the effects of this fever on the better ranks from hospital practice, but it has been ascertained that when persons in circumstances above those of the lower classes have been received into hospitals, the disease assumed an aspect more formidable than ordinary. The rich, as already observed, have suffered in a proportion greater to the number attacked than the poor ; I have heard it asserted, that in some parts of the country at least one half of those seized with fever of this class, have died ; but I suspect the estimate did not include all the slighter cases of fever : of these, many, no doubt, have been concealed ; for during the prevalence of all such epidemics, there is a disposition to concealment, more especially in a commercial country. But the frequency of this malady does not appear to have increased so much among the rich as the poor, and it is also less fatal than at the commencement of last winter. How long this immunity may continue it is impossible to predict ; the feeling of self preservation, were other better motives wanting, should therefore influence the upper classes of society to combine in rational and well-directed efforts to put down an evil, which, with daily advances, endangering their own lives and those of their dearest connexions, weakens and impoverishes their country.

On the morbid changes caused by this disease,

information may no doubt be acquired by anatomical examination of the body after death. To supply the want of this information at Cork-street, I have obtained from my friend and colleague in Trinity College, Doctor Macartney, the professor of Anatomy, a most satisfactory account of the appearances which he has observed in those who have died of this disease. I had put to him the following query: Are the appearances after death from this fever those of genuine inflammation, or are they of any peculiar kind?—He has favoured me with the following answer, which I have much pleasure in publishing, convinced as I am, of the extent and accuracy of his observations. He informs me that “having reviewed his notes on the anatomical examination of persons who have died of typhus fever, he can state as the result of his experience, that the morbid appearances in typhus fever are not those of common visceral inflammation. A great proportion of the subjects for anatomical lectures in Trinity College during last winter, appeared to have been of the present epidemic, as they had petechiæ on the surface; and his late observations on these have enabled him to confirm the above conclusion, which he had deduced many years ago.—The morbid appearances that strictly belong to typhus are the following, accordingly as the head, lungs, or abdominal viscera are engaged in the disease.—1st. Fulness or distention of the vessels of the brain,

especially the veins, some water effused on the surface and into the cavities of the brain. 2d. The same species of congestion in the lungs, and different degrees of effusion in the cavities of the pericardium and pleura. 3d. Venous congestion in the liver, spleen, or alimentary canal, sometimes a blood-shot appearance or spots of extravasation in the mucous coat, more particularly in the stomach and first coils of the intestines.—In some instances a more generally pulpy or swollen and discoloured state of the mucous coat of the alimentary canal.—These congestions were always of a purple or venous colour, and the blood throughout the body appeared to be accumulated in the venous system, and had little tendency to coagulate.—Such were the appearances attendant on the congestions observable after typhus fever. The morbid appearances in real and pure inflammation are these:—1st in the head.—The minute branches of the arteries appear more numerous than usual from carrying florid red blood.—The effusion which takes place is more consistent than in the former case, and appears like whey; or pus is secreted on the membranes---the arachnoid coat is thickened and opaque.---2d. In pleuritis and pericarditis, there is the same distribution of the arteries, and a wheyish looking fluid, pus or lymph thrown out. In inflammation of the substance of the lungs there is always venous congestion, but the small arteries also are increased, and the

lungs feel more firm than in typhus. 3dly, In gastritis and enteritis the inflamed parts are denser, the redness is brighter than in typhus. The peritoneum is liable to be involved, and termination is slough or ulcer after a certain time. In cases where general fever is combined with real local inflammation, as sometimes occurs in dysentery, or when pneumonia is combined with typhus, or the latter with permanent and violent delirium, the peculiar morbid appearances of each disease are to be observed in combination.

Two facts deserve to be recollected. 1st. That the duration of general fever and visceral inflammation are not the same. 2d. That internal inflammations are very common in hot blooded animals, but idiopathic fever is peculiar to the human kind. It may be added that processes of an inflammatory nature are fitted for repairing parts that have their functions interrupted or their structure injured, but the effects of typhus fever have no such power."

The coincidence between Dr. Macartney and some of the best modern writers on the subject are such as to prove satisfactorily, that the congestions observed after typhus fever, differ from those of genuine inflammation ; and the question of treatment as founded on these appearances re-

mains pretty nearly as before to be determined by experience only.

To enter minutely into the medical treatment which I pursued at the hospital, would be inconsistent with the objects of this report, but a few general observations may not be misplaced. All patients, on their admission are washed and cleansed, their clothes removed, and fresh clean clothes provided. This is no unimportant part of the general treatment ; it refreshes and produces a new state of the surface, with which the whole system so remarkably sympathizes. In many or most instances, the hair was cut or the head shaved. I have been informed that this practice was adopted with all fever patients at Steevens's hospital, and with excellent effects. That the hair must act as a fomes of contagion can scarcely be questioned, its removal must on this account be serviceable, and afford relief to head-ach, which is an attendant on most febrile cases. The practice also prepares the patient for the use of topical applications to the head, and recommends itself for these reasons, and for promoting cleanliness.

The cool and pure air of the wards, clean bed-clothes, abundant supply of drink, attention of nurses, are no small part, and should not be omitted in any statement of the curative means adopt-

ed in this hospital. In cases of violent delirium, cold applications to the head were often beneficial: these were sometimes made by dissolving some of the more soluble salts, such as nitre and sal ammoniac in water, and applying the mixture immediately, whilst the salt is undergoing solution. When the determination to the head was great, the detraction of blood, either by means of leeches applied to the temples, or by section of the temporal artery, often gave relief to the head-ach, and was followed by sleep. In such cases also, a blister to the nape of the neck was useful. When much local congestion was present, relief was obtained by general blood-letting, more especially if the symptoms indicated inflammation, and in such cases, the principle laid down by J. P. Frank about 28 years ago, was observed, “*In*
“*petechiis cum inflammatoria febre incedentibus,*
“*non posse modo sed debere sanguinem, pro im-*
“*petus febrilis ratione educi jam diximus.*” The recent publications of different practitioners on blood-letting in fever, have contributed to dispel the apprehension sometimes groundless respecting the use of this remedy in petechial fever. The cold affusion was sometimes employed with advantage; but patients were generally admitted at a period of their illness so far advanced that the full benefit of this remedy could not be expected.—The circumstances of the hospital for some time past, arising from the great pressure of business

there, have interfered with that minute attention in the use of this remedy, which is required to give it full effect. Tepid affusion in some instances appeared to allay heat and irritation ; its effects in promoting cleanliness and diminishing contagion, recommend it in a fever hospital. In every case, the alvine evacuations were attended to, and purgatives directed to procure a sufficiently lax state of the bowels. Mercury given to such extent as to manifest its proper action on the system, has been recommended ; I have tried the remedy in some severe cases, but my experience has not yet been sufficient to justify any positive assertion as to its efficacy. In some cases, where the patient's life appeared in imminent danger in consequence of apparent congestion in the brain, small doses of calomel given conjointly with antimonial powder, at short intervals of one or two hours, seemed to have produced a favourable result.— Wine is given in this hospital more sparingly than it formerly was, and so far I can judge the change is beneficial. In cases of debility consequent to debility, some wine appeared occasionally useful. Within the last two months,* I have witnessed the recovery of 150 patients who did not receive on an average 2 oz. of wine. The purple colour of the extremities already noticed, in a few cases appeared to be diminished by detraction of blood

* May and June, 1818.

from the head ; hence it would seem that this symptom arose from, or was connected with congestion in the brain.

No evil of great extent can exist without giving rise to some benefit, and it may result from the present epidemic, that witnessing many cases of recovery under very different modes of treatment, we shall cease to be dogmatically tenacious of system, and finding that induction on a scale more extensive than hitherto deemed requisite, can alone furnish just conclusions, we shall gradually attain truth.

With much regret I have to state, that fever makes rapid progress among the poorer classes, and the extraordinary number of 1200 beds which have been so providently fitted up in different hospitals in the city for the accommodation of fever patients, though lately increased, has not proved sufficient for all the applicants who at present enter the hospitals at the rate of more than 2000 monthly.*

* From the *admissions* alone to all the hospitals, can we judge correctly as to the progress of fever. The number of vacant beds in hospitals will depend altogether on the balance between the numbers admitted and dismissed. Of course in summer when the patients remain in the hospital for a shorter time than in winter a smaller number of beds is required to accommodate the same number of patients, than in the latter season, when illness and convalescence are more protracted : an *vice versa*.

It is certainly most satisfactory that the mortality, though considerably exceeding that of former years, has not increased in the same proportion with the number attacked ; but the consequences of such an epidemic as that now prevalent, are not to be estimated by the mortality alone : the debility and languor which succeed this illness, and often continue for weeks or months, the failure of productive labour, the expense of supporting the sick, or relieving those whom fever has reduced to beggary, are surely evils of enormous magnitude, although a single patient should not fall a victim.

On reviewing the progress of fever in this city, it becomes an interesting question to ascertain the causes which have led to the increase of this disease in Dublin within the last seven years. That the operation of these causes has been extensive will be evident on examination of the reports of the hospitals of Dublin, Cork, and Waterford, from which it will appear that the increase of fever in these places has been nearly simultaneous, and has continued with some fluctuations up to the present time.

Two causes may be supposed to have given origin to the augmented prevalence of this malady, either an increase of the concurrent causes, or a more active contagion. Much has been attributed

to the operation of the concurrent causes, which no doubt have had some share in extending this disease ; but that contagion of more than usual activity has been its principal source since the year 1810, is rendered probable by the following considerations : New contagion appears more active than that to which the human system has become habituated, and the more general spreading of fever in this country coincides as to time with the increase of communication with the continent, by means of our armies, during the last war, in circumstances notoriously productive of typhus and other species of fever. The expedition to the island of Walcheren took place in the autumn of 1809, and it is stated by Sir G. Blane, in his facts and observations on the Walcheren fever,* that typhus was remarkably prevalent at Flushing. Consequently among the 26,000 who sickened there, many must have laboured under infectious fever, and have conveyed it to these countries, to which they returned sick or convalescent, in great numbers.† In the year 1810, the records of the Dublin, Cork and Waterford Fever Hospitals, exhibit a very considerable increase of fe-

* Med. Chirurg. Observations, v. 3. p. 21. 12.

† According to Sir G. Blane's Report already quoted, 12,863 sick, including a small number of wounded, returned from the 21st of August to the 16th of December. This return, I suppose, does not include the various followers of an army.

ver, the admissions, which in 1809 amounted to 1500, in 1810 exceeding 2500.

Subsequent to this period our intercourse with the continent became more constant and extensive ; particularly during the year immediately preceding the great increase of fever in this city in 1815 : and as typhus fever is well known to follow the course of great armies, such, more especially as of late years, have moved over a great part of Europe, its introduction from this source becomes highly probable. This connection between war and pestilential fever may be proved to exist by a variety of evidence deducible in regular succession from remote periods to the present time. Some of the facts I shall state as collected from various German writers by the editor of the Edinburgh Medical and Surgical Journal ; others I shall supply from different sources, and the whole will, I think, clearly establish this point. In 1516, the war which Maximilian II. waged against the Turks gave rise to an epidemic, which laid all Germany waste. In 1683, a similar petechial disease followed a war in Hungary. The French war in 1740 and 1750 produced another epidemic. The seven years war again excited it.*

* It is named by the German writers *Krieg's pest*, or war plague, and the existence of such a name would prove it to be a familiar consequence of war in that country. It is the "*pestis bellica*" of their Latin writers.

It prevailed to a great degree in Austria in 1805, after the battle of Austerlitz, and in some subsequent years during the war between France and Austria. See *Edinburgh Medical and Surgical Journal*, v. 13. p. 13. Of late years petechial fever has been remarkably prevalent in many parts of Europe, and in North America. Great numbers of the French army perished from it in their return from the invasion of Russia. I possess documents which prove that fever prevailed epidemically to a great degree in Leipsic, in the year 1813, where it was said to have been introduced from East Prussia, and to have followed the course of the French armies.* At Dresden it prevailed about the same time; and at the fortress of Torgau, when besieged by the Prussians immediately after, 10,000 men and 5000 horses had been thrown into it, with all the sick of Dresden and the neighbouring country, the disease assuming great malignancy, and carrying off at least one-third of those attacked, with many of the French physicians and surgeons.—From Saxony the disease advanced westward. In October it first appeared at Hanau and on the banks of the Rhine; in De-

* Baron Larrey in his *Memoires de Chirurgie Militaire*, gives frequent descriptions of the fever which prevailed among the French troops at this time, and extended from them to the inhabitants of Germany. In its symptoms it strongly resembled the fever that prevailed in this country, particularly in the frequent appearance of purple extremities.

cember in the south of Germany, at Wirtemberg first in the north and then in the south. At Altona it prevailed in the beginning of 1814, when 17,000 fugitives, from Hamburgh and other parts of the neighbourhood, crowded into the most miserable habitations, and were there exposed to the greatest suffering and privations. Thus it spread by degrees from Prussia and that quarter of Germany which the wretched fugitives from the invasion of Russia had first entered, over the greater part of Germany, affording, in its gradual progress, a strong proof of its being extended by contagion.*

From a report of Baron Larrey, sent into the French government, on Dec. 10th, 1813, it appears to have prevailed among the inhabitants and army at the following places: Pont a Mousson, Nancy, Thiaucourt, Saint Benoit, Manthul, Verdun, Etain and Malatour. See his memoires, vol. 4, p. 459.

It reached Paris in the month of February 1814,

* Baron de Larrey, chief of the medical staff of the French army, mentions the fever which prevailed on the return of that army from Russia, in the following terms—*Cette Maladie a fait les plus grands ravages dans les premieres villes de la Pologne, ou un grand nombre de nos compagnons, avaient ete obligés de s'arreter pour cause de fatigue ou de congelation aux pieds.*—See his Memoires, Tom 4, p. 147.

and many of the attendants on the patients in hospitals were infected during the subsequent months, particularly in May. About the same period, it is well known to have been exceedingly prevalent and fatal in our armies in Spain. From the returns published by Sir James MacGrigor in his excellent sketch of the diseases of the army in Spain, it appears, that of continued fever there were admitted to the regimental hospital†

	Patients
In 1812	16,923
1813	11,294
1814 to June 24	5,007

And of this number about one-tenth died.

At Ciudad Rodrigo one-fifth of the inhabitants died of misery and fever in 1812.

Soon after these periods, the registries of the Dublin hospitals shew a great increase of the disease in this city, and a similar increase took place in some other parts of Ireland. Fever being thus extended over a great part of Europe by means of war, the augmented operation of concurrent causes diffused it in every direction. Political events

* See Sketch by Sir J. MacGrigor, Med. Chir. Trans. v. 6, p. 413.

have prevented the attention to this subject, at present so desirable : dazzled with the splendors of war, we have overlooked its miseries ; hence probably it arises, that histories of the progress of fever have either not been published, or the accounts have not reached us, and that an interval less productive of fever than usual, appears between the years 1815 and 1817 ; although we have no reason, from the experience of this country, to suppose that fever had abated on the continent, for this is not its usual course. But in the spring of 1817 it prevailed in many parts of Europe. Thus it was present at Turin in the spring of that year, and to a considerable degree, although the physician from whom we have the account,* written at the time when the fever prevailed, seems unwilling to allow any alarming prevalence of fever, yet he admits it to be petechial, and states, that from eighteen to twenty persons died of it daily in a population of about 39,000. The wish of this writer to prove the non-existence of any contagious fever in Savoy, to which also his inquiries extend, arises, as he states, from the apprehension “ lest the *French government should interrupt communication and prevent commerce.*”—Fever was also extremely prevalent at Rome. From an account which I have before me from a

* Dr. Guillard, see *Journal General de Medicine*, tom. 49, p. 401.

friend who visited that city in the spring of 1817, it appears, that within a few days before the end of Easter, fever had increased to such a degree that it became necessary to open new wards for the reception of fever patients. The mortality was great; many of the attendants, including priests, being carried off. It extended among the upper orders, and some of the physicians of the town fell victims to it. The number of deaths was so great that the physicians became greatly alarmed, and the attention of the government was attracted. In this case also scarcity of food had contributed to further its progress. The crop of the preceding year had failed, and the unfortunate inhabitants were so reduced by famine that the most disgusting articles of food were eagerly sought after to satisfy the craving of hunger. At Venice also; fever was observed to prevail in a great degree, and was attributed by Dr. Arietti, principal physician in that city, to prisoners brought into the north of Italy; but it was evident that the malady had existed there for some years previously, though not in the same degree.* The preceding facts prove sufficiently that fever, originating in war, and diffused principally by its agency, aided by famine, has spread over a great part of the continent. It is the same evil which has extended to this country, and has reached

* Private communication.

Glasgow* and Edinburgh, where it has been found necessary to employ extraordinary means to resist its progress. England has also experienced its effects. It has showed itself at Newcastle, and along the sea coast of that quarter, previous to its commencement in Dublin. It has visited Liverpool, and some other parts of England, and lately, it is said, has made its appearance in the metropolis.†

From the preceding statement it is evident, that an extensive war scarcely fails to produce fever ; and it is highly probable that the fever thus excited on the continent has been introduced into these countries, where, from the operation of various exciting causes, it has become extensively epidemic. To pursue the inquiry further would lead me beyond the limits of this report. It is very desirable, that it should be taken up by some one whose opportunities for acquiring information have exceeded mine.

Great efforts have no doubt been exerted to put a stop to the present epidemic. The condition of this city would have been truly deplorable but for the hospitable accommodation afforded to the sick,

* Accounts of the epidemic fever in Glasgow and in Edinburgh have been published by Dr. Millar and Dr. Duncan.

† A valuable work, by Dr. Bateman, which I have just seen, fully demonstrates this assertion.

and the other preventive measures so liberally adopted. But as these have proved insufficient to prevent the increase of fever, I hope I shall not be deemed obtrusive, but on the contrary, discharge my duty as a physician and a citizen, if I communicate such views as occur to me on this very important subject. In the first place I would advert to the great length of time, in most instances, six or seven days, which generally elapses before patients apply for admission to or are received into an hospital. Several causes contribute to this delay, particularly the distance of the hospitals from some parts of the town which are very productive of fever. The establishment of fever wards in different quarters of the city is the chief remedy for this evil.* A vigilant and active system of inspection would also contribute to its removal, and would further, not only the speedy admission of patients to hospitals, but also the cleansing of dwellings and other measures of purification tending to destroy contagion. It is evident also that fever patients from the country, coming into the crowded population of Dublin, must contribute to spread disease. When refused admission, as country patients, they sometimes take a lodging in town for the purpose of obtaining a claim

* Since this was written, Sir P. Dunn's Hospital, which had been opened in the spring for fever patients, to be supported by government, but closed during the summer, has been again opened for such applicants.

to be admitted, and thus perhaps communicate infection in a healthy family ; or if received into an hospital on their first coming into the city, on quitting the hospital after recovery, they delay in town, and still bearing contagion in their persons, they extend disease.* The establishment of small hospitals in the neighbourhood of the city, as proposed by Dr. Stokes, in his observations on contagion, whilst it afforded that relief which has appeared so necessary, would intercept this source of infection, and prevent its influx among our crowded population. The speedy adoption of this measure is called for by every consideration of prudence and humanity.†

The wearing apparel or bed clothes of the sick, where these undergo no purification, as generally happens in the dwellings of the poor, must act as a fomes, and contribute to extend disease. In some hospitals the patient's wearing apparel, as brought in on his admission, undergoes a purificative process, by which any infectious property must be completely destroyed : but the bed-clothes and wearing apparel of the family often remain untouched, and must prove a fertile source of disease. From this cause probably we find the

* Of this spreading of disease by a patient who had returned from an hospital, instances have come to my knowledge.

† Three new and extensive wards, capable of containing, in their crowded state, above eighty patients, were finished at Cork in two months and a half.—See Report by Dr. Barry, p. 18.

same houses to produce fever patients for months in succession, although the sufferers have been speedily removed to hospitals. The infection sometimes appears to adhere to the floors and walls of such rooms ; for I have observed lodgers, on coming into such places, soon attacked with fever, and in circumstances that led me to suppose the clothes of the other inhabitants had not given origin to the sickness : Similar observations have been made respecting the propagation of the plague.* To destroy the infection adhering to bed-clothes and wearing apparel, a plan is adopted in St. Peter's parish deserving attention on the present occasion. A house was taken, furnished with vessels and utensils for washing the clothes and persons of all applicants, and with a stove for exposing to a high temperature capable of destroying contagion, such articles of wearing apparel as cannot be washed without injury. It was opened on the 15th of April, since which time 1077 persons have had their clothes and bedding purified from infection ; 3571 rooms have been whitewashed, and straw has been supplied to their inhabitants. The amount of the outfit, was about 37*l.* and the current expenses did not exceed 12*l.* per month. The published account, from which these extracts have been made, concludes by stating that “ The

* See Russel on the plague p. 298.

“ people seemed to enter into the plan with sufficient readiness ; induced, no doubt, in some degree by the expectation of a comfortable meal ; but we have had proofs of their strong desire to have their clothes washed, with the view of cleansing them from contagion, and for this purpose incurring an expense they could hardly afford : *they find that appearing clean facilitates their getting employment.* The most usual difficulty in the removal of a family to the cleansing-house arises from fear of losing possession of their lodging, yet this has been removed by application to the landlord, who is interested in freeing the house from contagion.” From the above extract we may form an opinion of an establishment which attains its object without display, and with little expense. So far as I can ascertain, this house is sufficient for the wants of its parish ; and as the population of this parish amounts to about 1-11th of that of Dublin, it follows, that eleven such houses would serve for the whole city. Their outfit would cost little more than 400*l*, and their annual expense would not much exceed 1300*l* ; and it seems probable, that if expense merely were considered, the public would be gainers.

It is a strong argument in favour of the general adoption of this plan, that some parts of the city chiefly in that called the Liberty, are but indiffe-

rently supplied with water, and as cleanliness is impracticable where this want exists, contagious diseases must prevail. London has greatly improved in salubrity within the last fifty years ; this has been attributed by Dr. Heberden, in a paper on the mortality of London, among other causes, “ to the universal diffusion of water pipes, which “ like the vessels of a living body, being multi- “ plied by innumerable branches, carry away the “ impurities of life, and impart new health and “ animation to every district.”*

Doctor Haygarth, to whom we are indebted for many valuable suggestions on the prevention of fever, in “ a letter to the physicians, &c.” published in the Reports of the Society for bettering the condition of the poor in the year 1809, has proposed the distribution of clothes, as rewards to such families as could produce a certificate of their having thoroughly cleansed and ventilated their dwellings. The adoption of the measure here proposed would, no doubt, produce the

* The abundant supply of fuel in London is supposed also to have contributed much to its immunity from contagious disease within the same period. The use of fuel may act as a preventive by facilitating the means of obtaining cleanliness, but chiefly by promoting ventilation ; for a fire within the flue of a chimney must cause a perpetual current of air through the apartment. The disuse of fires in summer may contribute from the opposite cause to extend infection.

most beneficial results. Such plans now force themselves on our attention, when experience fully demonstrates that, according to the opinion of the late Dr. Percival of Manchester, “ Houses of Recovery are in truth of subordinate consideration, being only subsidiary aids.”

Much has been attributed to the effect of putrid effluvia and want of ventilation ; but it seems well established, that the agency of such causes is indirect, and that they do not give origin to fever, but merely increase the susceptibility of the human system, and by inducing debility, render it liable to receive the contagion. That putrid effluvia, unaided by typhus contagion, are not productive of fever, many facts concur to demonstrate. In schools of anatomy, long continued exposure to putrefying animal substances, is borne without injury ; nor is it found that Students in such places are more subject to fever than other persons of the same age in society ; and Dublin affords extensive opportunities for observation on this head.

The putrid emanations from many thousand bodies buried in the neighbourhood of Seville, when the yellow fever raged there in the year 1800, did not give rise to any disease, although the offensive smell was perceptible in the burying ground, which was the constant resort of many

thousands of the inhabitants—(Bancroft on the yellow fever, p. 115.)—Many other instances might be adduced where the putrid effluvia from thousands of bodies did not produce typhus fever, although such effluvia, no doubt, are unwholesome, and so far prepare the human system for its reception.—That the exhalations of many persons confined within the same inclosed space, are incapable of giving origin to infectious fever, is also highly probable, although the contrary opinion has been frequently maintained. In some countries bordering on the Arctic circle, the inhabitants bury themselves under ground, during their long winter, in the midst of effluvia and putrefying matter, which could scarcely fail to give rise to infectious fever, were such causes capable of producing it. No one who has heard the forcible description of a Greenlander's hut, during the winter, given by Sir Charles Gieseckè in his lectures at the Dublin Society, can suppose that confined air and putrid effluvia have the power of giving origin to fever, although such causes must, no doubt, greatly contribute to diffuse it when the contagion has been introduced.

It is of much consequence that just views should be entertained on these subjects; for so long as fever is supposed to arise from confined air, putrid effluvia, want of food, and other indirect causes, contagion, its real source, is neglect-

ed, and the evils thence originating and imperfectly counteracted, are suffered to extend progressively their noxious influence. Here I would disclaim any intention of depreciating the value and importance of those active and well-directed efforts which have been employed, particularly since the commencement of summer, to cleanse the city, and free it from nuisances. Putrid animal and vegetable effluvia, though incapable of giving rise to fever, promote its diffusion by debilitating the human system, and thus increasing its susceptibility : the removal of nuisances must, therefore, be salutary and preventive.

I do not know that any regular and well-conducted experiments have been instituted to show the inefficacy of various modes of fumigation, so strongly recommended by different observers, although the neglect into which they have fallen would lead to this inference. The chief objection to their use is, that too much reliance may be placed on these, to the neglect of other more approved means of destroying infection by cleansing and ventilation ; but in cases of extraordinary infection the fumes of chlorine or of the muriatic or nitric acids, seem to deserve a trial ; and if employed, intelligent persons should direct their application in the first instance, for otherwise they may appear inefficacious, and a valuable pre-

ventive fall into disuse in consequence of mismanagement.

From the facts and arguments contained in the preceding pages, the following inferences are deducible :

1st. That the epidemic fever of these countries has originated on the Continent of Europe, and has been produced by war.

2d. That it has been diffused by contagion, and has extended to these countries in consequence of their constant and unusually great intercourse with the continent, at the time when contagious fever prevailed there.

3d. That its progress in Ireland has been promoted by the peculiar circumstances of this country, occasioned by scarcity of provisions and want of employment among the lower classes.

4th. That it is to be subdued by opposing its direct and remote causes, namely, by removal of the sick to hospitals, by preventing communication between the infected and healthy, by instituting measures of cleansing, and generally improving the condition of the poor by giving them employment.

Previous to concluding this report, I feel it incumbent on me to do justice to the committee intrusted with the management of the Fever Hospital in Cork-street, by stating, that when ordinary minds might have shrunk from the duties of this office, from apprehension of its danger, their active superintendence has not been relaxed ; and this institution, hitherto serving as a model for similar establishments, in the midst of the difficulties and embarrassments by which it has of late been encumbered, preserves the order and arrangement for which it has been so distinguished, in these times more particularly, thus establishing the claim of its managers to the title of public benefactors.

In the preceding Report, I have dwelt, perhaps too long, on the evil consequences of the present epidemic. I should not quit the subject without adverting to the benefits also which are likely to arise from this event. The wants of the poor have become known, at a time and under circumstances of great urgency. The humanity of the upper classes has been called into action, and most benevolently exerted. Legislative interference has been obtained to aid the public in putting a stop to the present calamity, and preventing its future recurrence. Enlarged views have been acquired respecting the progress and prevention of fever, and an evil which threatened

formidable consequences has been at least comparatively mitigated. If such effects of the epidemic should gradually lead to an improvement in the habits, feelings, and condition of the whole community, that which to our narrow conceptions appears a calamity, may thus become a signal benefit, and prove the means of introducing health and happiness in the place of disease and misery.

F. BARKER,

22, Baggot-street.

Oct. 1st. 1818.

APPENDIX.

EXPLANATION OF THE TABLES.

TABLE I,

Is intended to give a view of the range of the mean heights of the thermometer in those months of the years 1815 and 1816, which, according to their temperature, have most effect on the productions of the earth. The height of the curved lines under each month, by reference to the degrees marked at the side, indicates the mean temperature of that month in London and Dublin during the years 1815, 1816. It is evident on inspection that the mean temperature in 1816, was lower than in the former year : the rate of this variation is also apparent.—Dublin appears on this, as will probably be found on other occasions, to have the advantage of a more equable temperature. The observations were made in Dublin by the Reporter, with a self registering thermometer on Six's construction.

TABLE II,

On a plan borrowed from the preceding, is intended to shew the progress of the epidemic fever, both as to frequency and mortality, as determined

by the numbers discharged from hospitals. The greatest height of the curved line under each month at the head of the column when referred to the numbers marked at the side, shows the total number of patients discharged from all the fever hospitals in Dublin in that month;—and in the lower scale of the plate, the progress of the mortality is also indicated. The average of some former years is likewise exhibited. Thus it becomes at once evident, that the epidemic fever has been steadily progressive:—That the numbers attacked by it, have greatly exceeded those of former years: and that it has been also more fatal, though not in proportion to its frequency. The periods of greatest increase and mortality appear on inspection, together with the rate at which these have varied. Such information is at once acquired by inspection of this scale, and thus it may serve to remove some erroneous notions which have prevailed respecting the epidemic.*

* An inconsiderable number of patients, in all not exceeding 30, had been at different times, during the summer of 1817, refused admission to Cork-street hospital from want of room there: but of these patients, either the whole or a great majority were received into the hospital at Brunswick-street. The hospital dismission afford, therefore, a proper measure of the progress of the epidemic, so far as this can be estimated by hospital returns. The hospitals receiving fever patients, have been, those at the *House of Industry, Cork-street, Stevens', Sir P. Dunn's*, and the *New Whitworth*. The sum total of patients, dismissed monthly from these, is expressed in the annexed scale.

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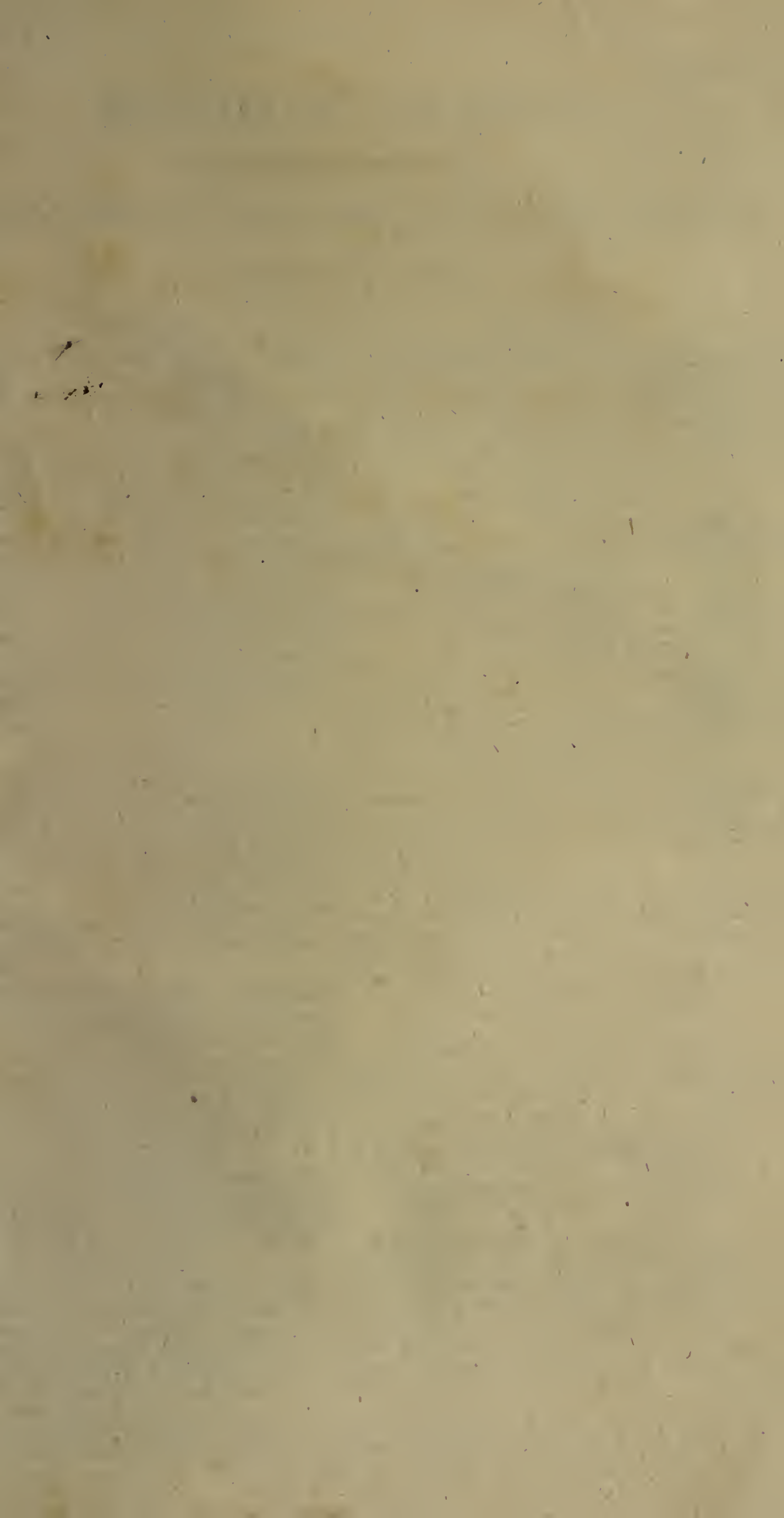
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